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BJKines

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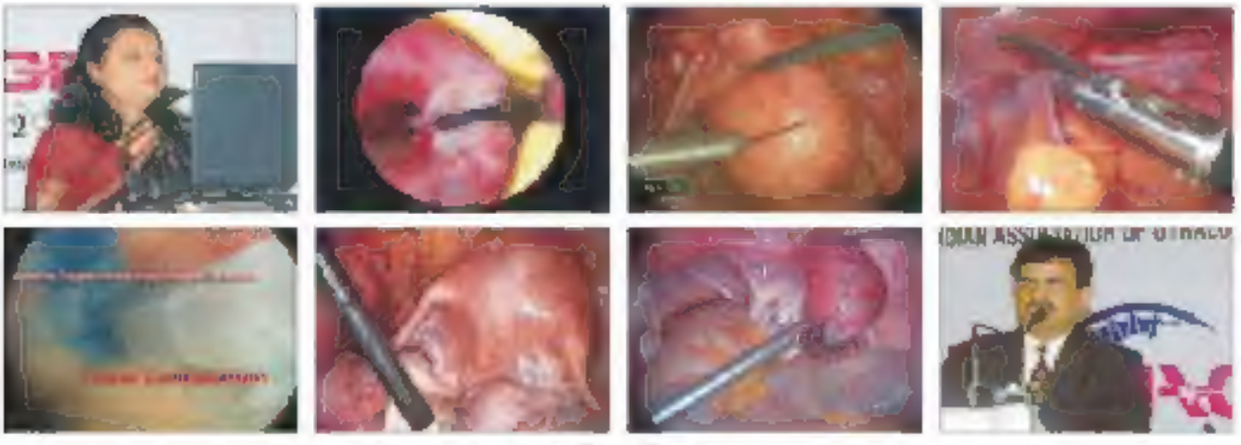

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BJKines

Contents

From The Editor's Desk.....

Dear friends,

We are experiencing the hot wave of summer and something cool is well desired by everyone. With this we are presenting the cool academics of *BJKines*, which is well orientated to the theme of our journal i.e. 'To Educate, Inform and Promote'.

It a great pleasure to inform that *BJKines* has been allotted International standard serial number (ISSN) by National Science Library at New Delhi.

This issue comes with interesting review and research articles along with details of achievements and scientific events of our institute. In the recent past we witnessed epidemic of Crimean Congo Hemorrhagic fever (CCHF), the unfortunate experience in Gujarat. However, it was well controlled by the dedicated team of doctors of our state. Hence, article on CCHF - the case management protocol and information on ribavirin has been included in this issue. In addition, considering the recent advances in ophthalmology a review article giving insight for freedom from spectacles following cataract surgery also features in this issue.

The research article section deals with variety of topics from Urology, Pathology and Community Medicine. The case report section is enlisted with cases related to thyroid, uterine abnormality and varicose veins. The open space section addresses the current postgraduate surgical training that requires use of simulators and periodic recertification to ensure surgical proficiency along with interesting experience of our ex student at the institute.

At last we thank all our editorial team mates for their support and suggestions in improving the journal day by day. We are also thankful to all the authors for submitting articles and giving encouraging task of editing our journal. We assure to take the journal to highest level in field of academic publication. We need your suggestion, support and blessing in achieving the same...

Dr. Mira K. Desai

Dr. Bipin K. Amin

Reforms in Medical Education

A curriculum is a vision and road map to meet the academic objectives. The undergraduate medical curriculum has been a debate among the medical professionals. There is a growing concern that the present medical education system has failed to keep pace with community and national needs both in quality and quantity. The present system imparts sufficient knowledge to the students however; there is little or no emphasis on essential skills.

Considering these facts, Medical Council of India (MCI) has taken up a task of restructuring the medical education system and proposed new recommendations through Vision 2015. The objective of restructuring the curricula is to enhance the quality and standards of medical education and training in the form of an 'Indian Medical Graduate'; a skilled and motivated basic doctor. To make the course more interesting and challenging various teaching methods like vertical and horizontal integration, problem and case based learning has been proposed. Certain subjects like medical ethics, communication skills, health economics etc. that do not receive due attention in the existing curriculum have been emphasized. Further, importance has been given to undertake research projects to enhance self directed learning and critical thinking by students. However, the recommendations are still broad based, lack clear concrete action plan and intricate details for implementation and evaluation. Assessment is a major drive for the students to learn. Unless it is specified how the essential skills and new subjects will be assessed, it will hardly have an impact on students' learning and competencies across the country.

To make the academic changes meaningful, it also requires a team of dedicated teachers with a drive to work hard, coordinate with different departments and get trained in a new pattern of teaching and evaluation. The role of a teacher will be also be changed to a facilitator and the teaching will be more 'student center' instead of 'teacher center'. Perhaps compulsory training of teachers in teaching technology, periodic update through continuous medical education and a functional medical education unit in each college will play a vital role in this regard. Further, the recommendations also emphasize on faculty training in research methodology, undertaking research activities and scientific publications. Hence, continuing faculty development programmes and training the trainers in teaching and research is a major step in this direction.

In addition to curricular reforms and faculty development, the system also needs administrative, financial, political and logistic support. A joint effort by the stakeholders along with improvement in infrastructure will certainly enhance the quality of medical education and achieve the expected outcome.

Bharat J. Shah
Dean & Professor, Anesthesia,
Mira K. Desai
Professor, Pharmacology
B. J. Medical College, Ahmedabad.

Scientific Events and Achievements at B. J. Medical College and Civil Hospital, Ahmedabad

B. J. Medical College and Civil Hospital

There have been several occasions of celebration and inauguration at the campus.

- Many new ventures have been started. The college is getting a face lift, with renovations and additions to the infrastructure. As a part of this, Hon. Health Minister Shri Jaynarayan Vyas inaugurated the new Anatomy and Physiology Department.
- A new transit ward with a capacity of 250-beds with four elevators has been constructed in record time using innovative materials that is safe with better thermal efficiency and sismic properties.
- In recognition of the services rendered by retired medical teachers of this institution a felicitation programme was organized at the institute.
- *'Akshaya Patra Yojana'*, the first of its kind of a partnership between a hospital and NGO has been launched to provide healthy food to the patients. The food menu has been planned to cater to all kinds of diets including full diet, salt free diet, fat free and diabetic diet.
- A reunion and get together of batch mates of 1974, 1978 and 1983 MBBS were organized, which was a grand success.

Anesthesia Department

- Paper presentation at 8th Annual West Zone and 43rd Annual Conference of Gujarat State, October 2010.
- 'Comparison of upper lip bite test and modified mallampatti classification in predicting difficult intubation', by Dr. Shaunak, Dr. T. P. Doctor, Dr. Seema Gandhi, Dr. I. A. Chadha
- 'Effect of perioperative anxiolysis on post-operative pain in patients undergoing total abdominal hysterectomy under general anesthesia', by Dr. Dipal Gaikwad, Dr. T. P. Doctor, Dr. Seema Gandhi, Dr. I. A. Chadha
- Dr. Tarlika Doctor has been appointed as Faculty, American Heart Association, USA (west zone, Gujarat) for Jan. 2010-12.
- Guest lectures by Dr. Tarlika Doctor,
- "Knee Joint—Arthroscopic and clinical perspectives and Pain Management in knee Disorders-Interventional Procedures", 29th October 2010; at B. J. Medical College, Ahmedabad.
- "Chronic pain in elderly - diagnostic and management dilemmas", 22nd October 2010 at Pt. B. D. Sharma PGIMS, Rohtak.
- "Basic life support training Program", at Dr. B.R.A.M Hospital, Raipur, Chhattisgrah, 25th -29th Jan. 2011.
- "Efficacy and comparison of epidural bupivacaine with fentanyl and sufentanyl for labour analgesia", at 13th World Congress on Pain, Montreal, Quebec, Canada, 2nd September 2010.

Community Medicine Department

- Training Programs
- IMNCI sensitization and advocacy workshop for senior health managers of Ahmedabad and Gandhinagar region (four batches).
- IDSP training to medical and paramedical staff of CHA and Ahmedabad district (three batches).
- Two weeks field epidemiology training programme for district surveillance officers of Kerala and Andhra Pradesh. (31/1/11 to 12/2/11) and Gujarat (7/3/11 to 19/3/11).
- EPI INFO training program for data analysis to the resident doctors.
- Two days FICTC training for medical officers of PHCs of different districts of Gujarat (eight batches).
- MCCD training to medical officers of Ahmedabad and Gandhinagar region (four batches).

- Research Project

  "Patterns of health care utilization and morbidity in urban and rural communities adopted by (UHTC/RHTC) B. J. Medical College and New Civil Hospital, Ahmedabad.

- Public Health Related Activities

- Death audit of swineflu cases admitted in CHA.
- "A rapid and thorough survey on vector borne disease in central, east and north zones of Ahmedabad city from 27th Sept. to 1st Oct. 2010 by Dr. N. J. Talsania, Dr. Chintul Shah, Dr. H. K. Mehta, Dr. Mitesh Patel.
- Dr. Atul V. Trivedi, has delivered services as member of State Surveillance Team for Sentinel Surveillance of HIV / AIDS in Gujarat State AIDS Control Society.
- Monitoring of medical and paramedical staff members in contact with CCHF patients.

- Scientific Publications

- 'A study of malaria related pediatric morbidity and mortality at new civil hospital Ahmedabad' *National Journal of Community Medicine*, 2010: 1(2): 135-8 by Dr. Niti Talsania, Dr. Shashi Vani.
- 'A study knowledge and practice among commercial sex workers registered under jyotisangh, STD Clinic, and Ahmedabad': *National Journal of Community Medicine* 2010; 1:149-5 by Dr. Niti Talsania, Dr. Rakesh Shah, Dr. Venu Shah, Dr. Murugan V.
- 'Cancer Registration, Principles and methods' *Health Line* 2011; 2: 7-12.by Dr. Niti Talsania, Dr. Jawahar Talsania, Dr. D.V. Bala.
- 'A cross sectional study of Thalassemia in Ahmedabad city' Health Line 2011; 2: 48-51 by Dr.Talsania Dr. Shrenik Talsania, Dr. Himanshu Nayak.
- "Effectiveness of different models of DOTS providers under RNTCP in Ahmedabad city Gujarat: *Indian Journal of Community Medicine* 2010; 35: 495-7 by Dr. A Bhagyalaxmi, Dr. Shikha Jain, Dr. A. M. Kadri.
- ' Study on effect of socio cultural factors on preference of sex of children in Ahmedabad district' *Health and population: perspectives and issues* 2010; 32 by Dr. Mallika Chavda, Dr. A. Bhagyalaxmi.
- 'Prevalence of behavioral risk factors of cardio vascular disease among school going adolescents of Ahmedabad, Gujarat' *Health and population: perspectives and issues* 2010; 32 (4): 198 – 203 by Dr. Jagruti Prajapati, Dr. J. Oza, Dr. P. Prajapati, Dr. A. Bhagyalaxmi, Dr. V.S. Rawal.
- "A study of the risk factors and the prevalence of hypertension in the adolescent school boys of Ahmedabad city" *Journal of clinical and diagnostic research* 2010; 4: 3348-54 by Khan MI, Lala MK, Mathur HN et al.

Dermatology Department

- Organized CME on Dermatopathology which was successfully attended by 115 delegates.
- New Therapies
- Mesotherapy, a technique which involves the microinjections of medications or vitamins into the skin to promote healing or corrective treatment to a specific area has been initiated for hair loss and stretch marks.
- Different modalities of treatment available for stretch marks and acne scars.
- Paper presentation at 39th National conference of Indian Association of Dermatologists, Venereologists and Leprologists at Gurgaon, 3rd-6th Feb. 2011,
- 'A study on effect of past or concurrent antitubercular therapy on frequency of nevirapine induced ADRs' by Dr.Ashish Suthar. The paper was awarded the best paper presentation prize (Prof. F. Handa award) at DERMACON-2011.
- 'A clinico-epidemiological and interventional study of squamous cell carcinoma' by Dr. Mohabat Baria. The paper was awarded the best paper prize (MGM Medical College award) at DERMACON-2011.
- 'A comparative study of efficacy of salicylic acid, glycolic acid in microdermabrasion and retinoic acid in the treatment of melasma' by Dr. Khushboo Gupta.

- Poster Presentations
- 'Role of cytopathology in diagnosis of vesicobullous disorders' by Dr.Sonia Mangal.
- 'Dermatofibrosarcoma protruberans - a case report' by Dr.Kinjal Bhalu.
- Paper Presentation at 38th Annual Conference of Indian association of Dermatologists, Venereologists and Leprologists Gujarat State Branch, at Vadodara, 17th -19th Dec 2010,
- 'Adverse drug reactions due to ART' by Dr. Dhwani Vakta.
- 'A study of sensitivity and specificity of histopathological parameters for the diagnosis of leprosy' by Dr. Santosh Rathod.
- 'An epidemiological and clinico histopathological study of appendageal skin tumours in patients attending dermatology department of Civil Hospital' by Dr. Shyam Rathoriya.
- 'Pediatric leprosy in the eradication era' by Dr. Arti Sutrawe.
- Poster Presentations
- 'Intralesional cryosurgery' by Dr. Ashish Suthar.
- 'Safety and efficacy of narrow hole extrusion technique (NHET) in lipoma removal' by Dr. Gunvant Mayavanshi.
- 'Diffuse cutaneous reticulohistiocytosis' by Dr. Anjana Parmar.
- 'Sezary syndrome' by Dr. Ketki Jog.
- 'A case report on ectrodactyly- a variant of EEC syndrome' by Dr. Khushboo Gupta.
- 'A diagnostic dilemma - Kaposi vs Pseudokaposi's sarcoma' by Dr. Najuk Mehta.
- 'Overlapping in vascular nevi' by Dr. Hiral Prajapati. The poster was awarded best posters prize at CUTICON-2010.
- 'Dermatological aspects of antiphospholipid antibody syndrome' by Dr. Sonia Mangal.
- 'KAP study of STI patients in the adolescent age group attending skin OPD' by Dr. Sudarshan Gaurkar.
- Paper Presentation at 9th Biennial National Conference of the Association of Cutaneous Surgeons of India, Aurangabad, 26th-28th Nov. 2010,
- Safety and efficacy of narrow hole extrusion technique (NHET) for lipoma excision by Dr. Sudarshan Gaurkar.
- A comparative study of efficacy of glycolic acid (GA), trichloroacetic acid (TCA) peel, microdermabrasion (MDA), chemical reconstruction of skin scars (CROSS) technique in acne scars treatment by Dr. Arti Sutrawe.
- Intralesional cryosurgery by Dr. Priyanka Dhanotia.
- Paper Presentations at International Symposium on Dermatopathology, Bangalore, 12th -14th Nov. 2010,
- 'A study of histopathological parameters of leprosy' by Dr. Santosh Rathod.
- 'A diagnostic dilemma- Kaposi vs Pseudokaposi's sarcoma' by Dr. Shyam Rathoriya.

Microbiology Department

- Quality Control
- The department participates in External Quality Assessment Scheme (EQAS) conducted by the Indian Association of Medical Microbiologists (IAMM) – Thrissur, Kerala, India. The association sent unknown panel samples for proficiency testing in Bacteriology and Serology. Total four Quality Control (QC) packages of panel samples were received and processed in the laboratories. The results were evaluated and scored 95% for the year 2010.
- Initiated dengue PCR testing in virology laboratory from February 2011 onwards.
- Guest Lecture by Dr Sumeeta T. Soni on 'Sample collection and transport for Diagnosis of Infectious Diseases in training of District Health Officers at Gandhinagar in January 2011.
- Training Programme
- Integrated Counselling and Testing for technicians in six batches during 2010-2011.

- Research Projects
- 'Detection of cryptosporidiosis in HIV seropositive patients by conventional method & ELISA.' by Dr. Manisha G. Patankar.
- 'Prevalence of vancomycin resistance in *Staphylococci* isolated from various clinical samples in a tertiary care hospital' by Dr. Dipa M.Kinariwala.
- 'Prevalence of methicillin resistant *Staphylococci* (MRS) from neonatal septicemia and comparative evaluation of detection of MRS by conventional methods with newer latex agglutination method' by Dr. Disha A Patel.
- Paper Presentation
- "Evaluation of conventional and serological methods for rapid diagnosis of cryptococcal meningitis in HIV seropositive patients" by Dr. Dipal Jethwa at VI Annual Conference of Indian Association of Microbiologists, Gujarat Chapter, on 30th January 2011. The paper was awarded first prize.
- 'Comparison of cefoxitin and oxacillin disc for detection of mec-A mediated resistant in *staphylococcus*' by Dr. Komal Patel at VI Annual Conference of Indian Association of Microbiologists-Gujarat Chapter on 30th January 2011.
- Poster Presentation
- "Neonatal septicemia - microbiological profile and antibiogram of blood culture isolates" by Dr. Payal Raval , VI Annual Conference of Indian Association of Microbiologists-Gujarat Chapter on 30th January 2011. The poster was awarded second prize.
- "Prevalence of *enterococcus* in various infections and its antibiotic sensitivity pattern"by Dr Gaurav Modi, Microcon GC 2011. The poster was awarded second prize.
- "Sample rejections as a quality indicator for continual improvement of laboratory services" by Dr. Milan Dharsandia in Quality Assurance Forum on 20th February 2011.
- Dr. Dipal Jethwa and Dr. Milan Dharsandia received first and second prize respectively for quiz competition at Microcon 2011.

Obstetrics and Gynaecology Department

- Dr. Haresh Doshi has been awarded PhD in Medicine by Gujarat University for research on "Nutritional anemia a major health hazards for females from adolescence to menopause in Indian scenario".
- Guest lectures and publications by Dr. Haresh Doshi,
- 'Breech presentation' and 'Heart disease' at PG Focus 2010 program at Jubilee Mission Medical College, Thrissur, Kerala, on 7th Sept. 2010.
- PG lectue in AOGS PG teaching course on 'Ectopic pregnancy' on 10th Sept. 2010.
- 'Diabetes in pregnancy' and Technique of safe delivery of baby during caesarean section' in PG National CME at Bellary, Karnataka on 17th Dec. 2010.
- 'Preterm labour' and 'Rh Isoimmunization' in PG National revision course "OG Quest 2011" at Shri Ramchandran Medical College, Chennai on 11th Feb. 2011.
- Induction delivery interval and uterine incision delivery interval at caesarean section and Neonatal outcome. *Jr. of Paediatrics, Obstetrics & Gynaecology* 2010;1(9):356-8.
- Successful vaginal birth after caesarean section – Analysis of 162 cases. *The Jr of Obstetrics & Gynecology of India* 2010; 60:498-502.
- Editor & Chief Author of the book 'Clinical cases in Obstetrics & Gynecology' 4th edition published by Arihant Publishers.

Pathology Department

- An interactive slide seminar on 24th September, 2010 was organized by the editorial team of Ahmedabad association of Pathologist and Microbiologist for the institution staff members and post graduates.

- Organized CME on Haematology Update and Surgical Pathology on 18th - 19th September 2010 and 1st January 2011 respectively
- Organized guest lecture on 'Problems in Diagnosis and Interpretation of Bone marrow Biopsy specimen' by Dr Rakul Dasi organized on 11th January 201. at B J Medical College, Ahmedabad
- Poster Presentation at 2nd CME in Haematology, Zalawad Haematology Forum at C.U Shah Medical College & Hospital, Surendranagar on 3rd October 20 0.

  "DIC & ISTH scoring system" by Dr Rinku Makwana, Dr Gayatri Bamaniya and Dr Ripal Gosa. The poster was awarded first prize.

  "Haematological correlation in H1N1 infection" by Dr. Saraswati, Dr Swati Patel and Dr Zankhana Prajapati.

  "Polycythemia with cerebra. vascular thrombosis " by Dr. Hiren Kaswala, Dr. Archit Shah and Dr. Chirag Menapara.
- Paper Publication

  "Recurrent skull metastasis of RCC, 28th months after nephrectomy"- a case report in *Journal of Patho & Lab. Medicine*, 2010: 2.
- Research Project

  Screening of hemoblobinopathies and thalassemia in the women attending antenatal clinics in their first trimester by Dr. H. M. Goswami.
- Dr Hansa M Goswami qualified PG Certificate Programme in Quality Management & Accreditation of Health Care Organization (QM & AHO) from Academy of Hospital Administration, Noida in June to December 2010

Pharmacology Department

- The editorial team of *Indian Journal of Pharmacology* was invited for workshop on' Scientific Writing ' at NHLMMC, Ahmedabad and Anand College of Pharmacy in April 2011.
- Poster Presentation at National IPS conference, December 2010,
- 'Comparative efficacy of bronchodilators with or without montelukast in patients of chronic bronchial asthma' by Hiburiya NH, Shah SP, Desai MK, Dikshit RK
- 'Knowledge and Attitude towards the use of E- Pills among college students' by Sheist PR, Patel PP Gandhi AM, Desai CK, Desai MK, Dikshit RK.
- A study of prescribing pattern of fixed dose combinations in Ahmedabad', by Shivaprasad, Balat JD, Patel PP Gandhi AM, Desai CK, Desai MK, Dikshit RK

  ' Peripheral pharmacovigilance centre, achievements and obstacles' , by Desai CK.
- Guest lectures, by Dr. Mira Desai,
- Training course on 'Promoting Rational Use of Medicines in the Community' , sponsored by WHO March 2011
- 'Role of calcium in the management of menopause' at AOGS, March 2011.

  'Evaluation methods in ME' and Audio visual aids at GMC Surat, April 2011.
- 'Audit and surveillance of antimicrobial use' at the institute on celebration of *World Health Day*, April 2011
- Guest lectures by Dr. Chetna Desai,
- 'Evaluation in ME', National Consultative meeting for reforms in Medical Education at PSMC, Karamsad.

  Hands on exercise in 'Item analysis of M.C.Q. for coordinators and MEU members at PSMC, Karamsad.
- Change management, Qualitative research and survey methods CMCL FAIMER Fellowship program Feb 2011
- Guest lecture by Dr Prakruti Patel,
- ' Evaluation methods in ME' at MPSMC, Jamnagar Dec 2010.

Crimean Congo Hemorrhagic Fever – Clinical Case Management Protocol

*Geeta Kedia**

ABSTRACT

Crimean Congo Hemorrhagic fever (CCHF) is a viral disease commonly seen in Africa, Europe and Middle East. However, few cases were recently reported in India. The disease has an epidemic potential with high case fatality rate. In view of this, an attempt has been made to provide case management protocol for this rare but fatal infection.

I. Epidemiology

Crimean-Congo Hemorrhagic fever (CCHF) is a viral haemorrhagic fever caused by Nairovirus. The disease is endemic in many countries in Africa, Europe and Middle East. In India's neighbourhood, Pakistan reports 50-60 cases annually.[1]

CCHF outbreaks constitute a threat to public health services because of its epidemic potential, its high case fatality ratio (10-40%), its potential for nosocomial (hospital acquired infection) outbreaks and the difficulties in treatment and prevention.[2]

Agent

The causative organism is a Nairovirus, a RNA virus belonging to Bunyaviridae family.[3] It is one among the four viral families known to cause Viral Haemorrhagic Fever (VHF) disease in humans, the other three being Arenaviridae (Lassa fever), Filoviridae (Marburg and Ebola) and Flaviviridae (Yellow Fever, Dengue). The most severe haemorrhagic manifestation from a VHF virus follows infection with the Crimean Congo hemorrhagic fever virus. Further this virus can be used as a bio terrorism agent.[4]

Host Factors, Vectors and Reservoirs

Human beings are the only known host of CCHF virus in which disease is manifested.[4] The CCHF virus may infect a wide range of domestic and wild animals. Animals become infected with CCHF from the bite of infected ticks. Domestic ruminant animals, such as cattle, sheep and goats, who act as amplifying host, are viraemic (virus circulating in the bloodstream) for around one week after becoming infected. It does not cause disease in ruminants. Some migratory birds and ostriches are also susceptible to infection.[4]

A number of ticks are capable of becoming infected with CCHF virus, but the most efficient and common vectors for CCHF appear to be members of the Hyalomma genus (argasid or nodid ticks). Once infected, the tick remains infected through its developmental stages, and the mature tick may transmit the infection to large vertebrates, such as livestock.[5,6]

Environmental Factors

Ecological changes, poverty, social instability, poor health services, and absence of standard infection control practices have contributed to increased transmission of the CCHF virus.

Mode of Transmission

Humans who become infected may acquire the infection from tick bites or from direct contact with blood or other infected body fluids and tissues from infected animals or humans.[5]

Population at Risk

In endemic countries, majority of cases have occurred in those involved with the livestock industry, such as agricultural workers, slaughterhouse workers and veterinarians.[5] Health care workers attending on suspect/ probable/ confirmed CCHF cases and not following contact precautions are at high risk of getting infection. Hospital acquired infection outbreaks (nosocomial spread) has been reported in many countries.[5,7,8]

Incubation Period

The incubation period is 2-7 days. The length of the incubation period for the illness appears to depend on the mode of acquisition of the virus. Following infection via tick bite, the incubation period is usually 1 to 3 days, with a maximum of nine days. The incubation period following contact with infected blood or tissues is usually 5 to 6 days, with a documented maximum of 13 days.[5,9]

* **Professor and Head, Community Medicine,**
Compiled as per the guidelines from Emergency Medical Relief Division, Directorate General of Health Services, Ministry of Health & FW

II. Clinical Features

The prehaemorrhagic period is characterised by the sudden onset of fever (39-41°C), headache, myalgia, dizziness nausea, vomiting, abdominal pain, neck pain, prostration, photophobia etc. On an average, fever persists for 4–5 days. Additional symptoms of diarrhoea, nausea, and vomiting are also seen in some cases. Hyperaemia of the face, neck, and chest, congested sclera, and conjunctivitis are commonly noted. The prehaemorrhagic period lasts an average of 3 days (range: 1–7 days)

The haemorrhagic period is short (usually 2–3 days), develops rapidly, and usually begins between the third to fifth day of disease. There is no relation between the temperature of the feverish patient and onset of haemorrhage. Haemorrhagic manifestations range from petechiae to large haematomas appearing on the mucous membranes and skin. Bleeding from other sites, including the vagina, gingival bleeding, and cerebral haemorrhage have been reported. The most common bleeding sites are the nose, gastrointestinal system (haematemesis, melena, and intra-abdominal), uterus (menometrorrhagia) and urinary tract (haematuria).[8]

The severely ill may develop disseminated intravascular coagulation (DIC), hepatorenal and pulmonary failure. The mortality rate from CCHF is approximately 30%, with death occurring in the second week of illness. In those patients who recover, improvement generally begins on the ninth or tenth day after the onset of illness.[8,9,10]

The convalescence period begins in survivors about 10-20 days after the onset of illness. In the convalescent period, labile pulse, tachycardia, temporary or complete loss of hair, polyneuritis, difficulty in breathing, xerostomia, poor vision, loss of hearing, and loss of memory have been reported

III. Differential Diagnosis

The following diseases are to be considered in differential diagnosis, pending lab confirmation: malaria, leptospirosis, rickettsial diseases, meningococcemia, dengue haemorrhagic fever haemolytic uremic syndrome, and thrombocytopenic purpura.

Laboratory Diagnosis[8]

Samples

Serum, plasma or tissue sample (liver, spleen, bone marrow, kidney, Lung and brain) for sample collection.

Bio Safety Requirements

Diagnosis of suspected CCHF is performed in specially-equipped high bio safety level laboratories (BSL 3 + or 4).

Serology

- IgM and IgG antibodies may be detected in serum by enzyme-linked immunoassay (the "ELISA" or "EIA" methods) from about day six of illness. IgM remains detectable for up to four months, and IgG levels decline but remain detectable for up to five years.
- Patients with fatal disease do not usually develop a measurable antibody response and in these individuals, as well as in patients in the first few days of illness, diagnosis is achieved by virus detection in blood or tissue samples.

Antigen Detection

Viral antigens may sometimes be shown in tissue samples using immunofluorescence or EIA.

Molecular Technique

In the first few days of illness, The polymerase chain reaction (PCR), is used for detecting the viral genome.

Virus Isolation

The virus can be isolated from blood or tissue specimens in the first five days of illness, and grown in cell culture. It should always be carried out in maximum bio containment laboratory i.e. BSL-4

Biochemical Findings

Thrombocytopenia appears to be a consistent feature of CCHF infection. Patients may have leucopenia and raised levels of aspartate aminotransferase, alanine aminotransferase, lactate dehydrogenase, and creatinine phosphokinase. Coagulation tests such as prothrombin time and activated partial thromboplastin time are prolonged. The level of fibrinogen might be decreased, and fibrin degradation products could be increased. Laboratory tests, including complete blood count, and biochemical tests returns to normal levels within approximately 5–9 days among surviving patients.[8]

IV Case Definition

Suspect Case

- A patient with abrupt onset of high fever >38.5°C and one of the following symptoms: severe headache, myalgias, nausea, vomiting, and/or diarrhoea

and

- History of tick bite within 14 days prior to the onset of symptoms; or
- History of contact with tissues, blood, or other biological fluids from a possibly infected animal (e.g. abattoir workers, livestock owners, veterinarians) within 14 days prior the onset of symptoms; or
- Healthcare workers in healthcare facilities, with a history of exposure to a suspect, probable, or laboratory-confirmed CCHF case, within 14 days prior to the onset of symptoms

Probable Case

A probable CCHF case is defined as a suspected CCHF case fulfilling in addition the following criteria.

- Thrombocytopenia < 50,000/cmm

and

- Two of the following hemorrhagic manifestations: hematoma at an injection site, petechiae, purpuric rash, rhinorrhagia, hematemesis, hemoptysis, gastrointestinal haemorrhage, gingival haemorrhage, or any other hemorrhagic manifestation in the absence of any known precipitating factor for hemorrhagic manifestation

Confirmed Case

A confirmed CCHF case is defined as a case that fulfils the criteria for probable CCHF and in addition is laboratory-confirmed with one of the following assays:

- Detection by ELISA or IFA of specific IgM antibodies against CCHF virus or a 4-fold increase in specific IgG antibodies against CCHF virus in two specimens collected in the acute and convalescence phases
- Detection by RT-PCR of CCHF virus genome in a clinical specimen confirmed by sequencing of the PCR product
- CCHF virus isolation

V. Triage

Patients are divided into 3 categories (Fig-1)

Category-A

Those that have relatively mild disease (fever < 38.5°C, No systemic bleeding, alanine transaminase (SGPT) levels < 150 IU, platelet count > 50,000). These patients improve spontaneously in about day 10 of illness. Patient can be managed with supporting therapy and regular monitoring for worsening of symptoms. These patients do not require ribavirin.

Category B

Those who are in the first 5 days of illness and are severely ill with high grade fever (> 38.5°C), local and systemic bleeding manifestations, having alanine transaminase (SGPT) levels of 150 IU or more, aspartate aminotransferase (SGOT) of 200 IU or more, platelets (< 50,000) or activated partial thromboplastin time (APTT) of 60 seconds or more. Even if the patients still look comparatively well at this stage these clinical path values are markers of poor prognosis if recorded during the first 5 days of illness and persons in this group should be treated as soon as possible with ribavirin. Those who are recognized and treated early enough respond remarkably well to ribavirin.[1]

Category C

Patients first seen/recognized as CCHF after day 5 and are in comatose/terminal state with DIC and multi organ failure. Treatment with ribavirin is indicated but the prognosis is very poor.

Category B and C patients, even if they subsequently test negative, should receive the full course of ribavirin.

VI. Pre-hospital Care

Supportive care is based on the patient's physiologic condition. Because most patients requiring pre-hospital evaluation and transport are in the early stages of the disease, universal precautions should be adequate. In patients with respiratory symptoms (e.g., cough, rhinitis), use face shields and high-efficiency particulate air (HEPA) filter masks.[2] The ambulance should be disinfected after patient transportation with bleach/ sodium hypochlorite solution.

VII. Care in Hospital Settings

Supportive Therapy

General supportive therapy is the mainstay of patient management in CCHF. Intensive monitoring to guide volume and blood component replacement is required.

Supportive care includes fluid management by intravenous crystalloids, oxygen, cardiac monitoring and administer blood and blood products as clinically indicated.

Avoid intramuscular injections and the use of aspirin or other anticoagulants. Minimize invasive procedures because of the risk associated with viral transmission from sharp objects [2,3]

Pharmaceutical Interventions

Antiviral

There is currently no specific antiviral therapy for CCHF. However, ribavirin has been shown to inhibit in-vitro viral replication in Vero cells and reduced the mean time to death in a sucking mouse model of CCHF. Additionally, several case reports have been published that suggest oral or intravenous ribavirin is effective for treating CCHF infections.

Ribavirin

Ribavirin is a member of the nucleoside anti metabolite drugs that interfere with duplication of viral genetic material. This is the only antiviral known to have some effect on the viruses causing VHF

Dosage Regimen (for adults) [4]

Administration	Day 1	Day 2-4	Day 5-10
IV	17 mg/kg * (max 1000 mg per dose)	17 mg/kg (max 1000 mg per dose) 6h	8 mg/kg (max 500 mg per dose) 8h
Oral	2000 mg	1000 mg 6h	500 mg 6h

*If there appears to be a delay in beginning the treatment a loading dose of 30 mg / kg [IV] (max 2 gms) might be necessary as the loading dose.

Box 1: Treatment Protocol Approved by CCHF Panel

- 2 gm loading dose
- 4 gm/ day in 4 divided doses(6 hourly)for 4 days
- 2gm/day in 4 divided doses for 6 days

Dosage Recommended For Children

Administration	Day 1	Day 2-4	Day 5-10
IV	17 mg/kg	17 mg/kg q 6h	8 mg/kg q 8h
Oral	30 mg/kg	15 mg/kg q 6h	7 mg/kg q 6h

The optimal route of administration of ribavirin is by mouth. During the course of CCHF, patients have nausea, vomiting, gut bleeding, haematemesis, melena and hence may result into poor uptake of oral ribavirin. Given the potential need for parenteral drug administration, an IV formulation is also available. The oral preparation is preferably taken with food. Blood count needs to be monitored at least weekly. The safety of oral ribavirin has been examined in approximately 5,000-10,000 patients with VHFs in controlled and uncontrolled clinical trials. Ribavirin was generally well tolerated.

Adverse Effects

The most common side effect of ribavirin is mild to moderate haemolytic anaemia which is reversible. Anaemia associated with ribavirin therapy is often asymptomatic and can be managed by monitoring blood count and serum biochemistry. Ribavirin administered as an intravenous bolus has been reported to induce rigors; consequently, it is recommended that the drug be administered as an infusion over 10-15 minutes. There have been reports of pancytopenia and pancreatitis associated with use of intravenous ribavirin.

Contraindications and Precautions

Ribavirin is contraindicated for treatment in pregnant women. It has demonstrated significant teratogenic and embryocidal potential in all animal species in which adequate studies have been conducted. It can be given to pregnant women only if the benefit of ribavirin therapy appears to outweigh any fetal risk. Given the high risk of CCHF-related mortality both for pregnant women and foetuses, ribavirin still may be recommended.

Ribavirin is contraindicated in patients with chronic anaemia and haemoglobin levels below 8g/dl, and in patients with severe renal impairment (creatinine clearance <30 ml/min). The drug may accumulate in patients with impaired renal function. These patients should be carefully

monitored during therapy with ribavirin for signs and symptoms of toxicity, such as anaemia. Ribavirin is also contraindicated in individuals who show hypersensitivity to the drug or its components.

Other Drugs / Critical Care Support

In case of hypotension and hemodynamic instability patient should be managed on standard guidelines for the treatment of shock which includes resuscitation, fluid supplements (crystalloids/ colloids) and inotropic support.

- In suspected secondary bacterial infection patient should be treated on standard guidelines / practice for community acquired/ nosocomial infections.
- Proton pump inhibitors can be considered on case to case basis.
- There is no definite role of steroids for managing this illness per se.
- Correction of coagulation abnormalities (only if present) with the use of platelet rich plasma /SDP, fresh frozen plasma, cryoprecipitate, as per indications.
- Platelet transfusion may be considered if there is significant bleeding with thrombocytopenia.
- Paracetamol for fever avoid other NSAIDs.
- Ventilatory/ renal support may be provided as per standard guidelines.

Chemoprophylaxis

Prophylactic administration of oral ribavirin to contacts of CCHF patients is NOT recommended. Symptomatic contacts can be given therapeutic dose as mentioned above. Consider full therapeutic dose of ribavirin for health care workers (HCW) with severe exposure (needle stick injury, direct contact with blood /body fluids). For person with mild exposure observe and closely monitor HCW for any symptoms.

Non Pharmacological Interventions

When patients with CCHF are admitted to hospital, there is a risk of nosocomial spread of infection. In the past, serious outbreaks have occurred in this way and it is imperative that adequate infection control measures be observed.

- Place patients in an isolation room.
- A negative pressure room is not necessary during early stages of the disease but may be necessary if patients have prominent cough, vomiting, diarrhoea, or haemorrhage.
- Prevent non essential staff and visitors from entering the room.
- All staff entering the room should wear personal protective equipments.
- Hand washing / hand sanitization before and after clinical examination/ conducting procedures on the patient.
- Persons coming within 3 feet of the patient should wear face shields or surgical masks with eye protection (including side shields). Use HEPA filter masks if patients have prominent respiratory, GI, or hemorrhagic symptoms.
- Specimens of blood or tissues taken for diagnostic purposes should be collected and handled using universal precautions. Sharps (needles and other penetrating surgical instruments) and body wastes should be safely disposed of using appropriate decontamination procedures.
- If large amounts of blood or other body fluids are present in the environment, use leg and shoe coverings.
- Before exiting the room, discard all used protective barriers and clean shoes with a hospital disinfectant or solution of household bleach. If possible, use an anteroom for putting on and removing protective barriers and for storing supplies.
- Hospital clothing, bed sheets and other linen used in patient care should be treated as infectious and autoclaved and incinerated.
- All used materials such as syringes, gloves, cannula, tubing etc used for patient care should be collected in autoclavable bag, autoclaved and incinerated.
- All instruments, equipments etc should be decontaminated/ autoclaved before re use.
- Surfaces should be decontaminated with liquid bleach.
- CCHFV can be inactivated by disinfectant including 1% hypochlorite and 2% gluteraldehyde.
- Avoid spills, needle pricks, injury and accidents during case management.
- Healthcare workers who have had contact with tissue or blood from patients with suspected, probable or

confirmed CCHF should be followed up with daily temperature and symptom monitoring for at least 14 days after the putative exposure.

- Hospital waste management practices should be as per standard guidelines.
- Infection control practice is to be supervised by hospital infection control committee.
- The patient and attendants need to be examined for ticks using universal precautions. Application of acaricidal agents is recommended if there is evidence [redacted]
- Dead body disposal:
    - Use rubber gloves or double surgical gloves for handling dead body. The persons handling the dead body in hospitals should also wear mask/ PPE.
    - Spray dead body with 1:10 liquid bleach. Wrap with a winding sheet. Spray the winding sheet with bleach solution.
    - Place the wrapped and bleached body in plastic bag. Seal with adhesive tape and transport.
    - Disinfect ambulance / transport vehicle.

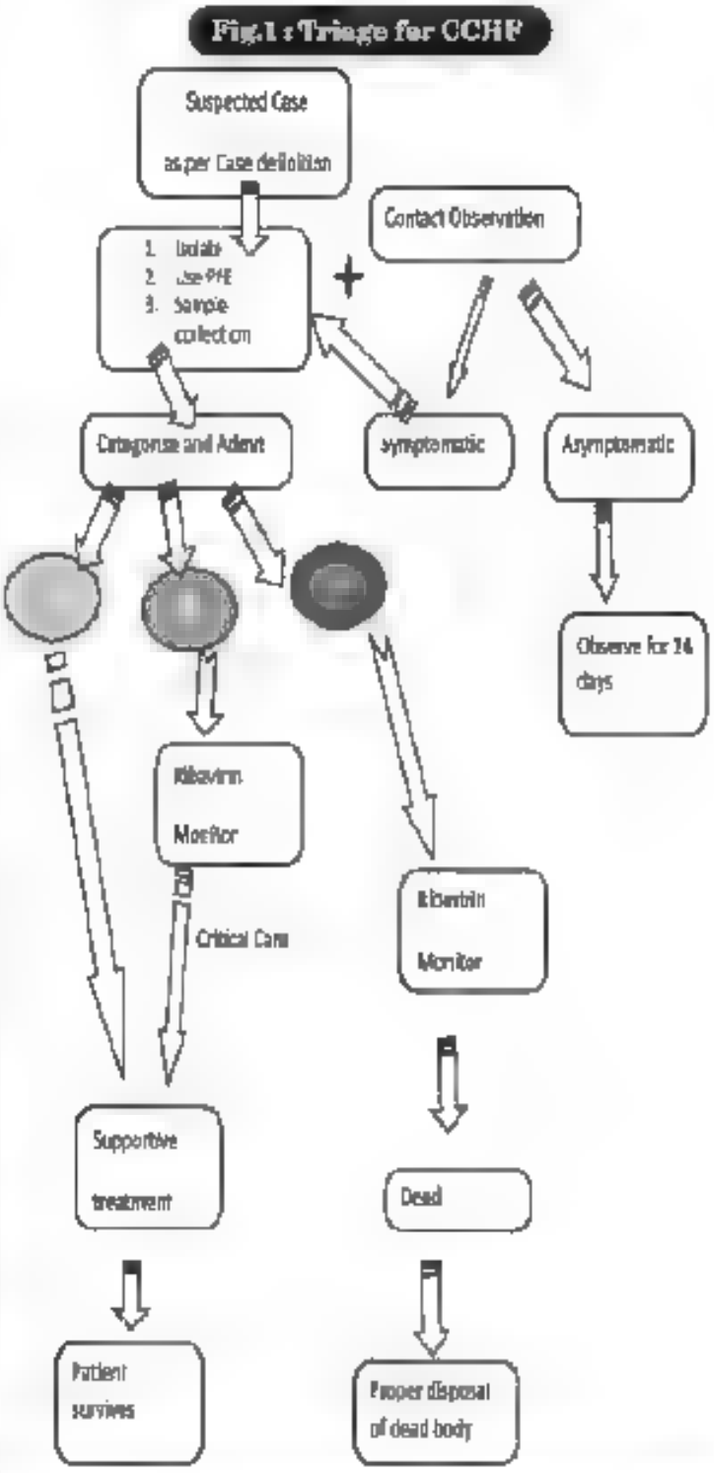
Contacts of CCHF cases definition, monitoring and laboratory testing

Definition of "contact"	Contacts include: family, neighbourhood and health care facility contact
Monitoring contacts	• All contacts should be self monitored for twice daily for any clinical symptoms (such as fever, muscular pain or bleeding) 14 days (maximum) from the day of last contact with the patient or other source of infection. ' • In case of onset of any symptom, he/ she should immediately report to the nearest health facility.
Testing blood for CCHF	• Appropriate laboratory testing is recommended in persons meeting the case definition.

- Risk Communication

Hospital setting provides an enabling environment for risk communication. OPD may be used as a venue for educating patients on animal-human-vector interface and simple measures for disease prevention such as personal hygiene, hand washing, daily bath, keeping domestic animals clean and free from ticks, general health and sanitation measures in house and within the surroundings and self reporting of symptomatic cases.

Fig.1 : Triage for CCHF



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We will care for each other,

Enjoy the fruits together and make efforts together,

Let our studies be revealing and let us not be envious of each other.

Freedom from Spectacles for Cataract Patients

D.C.Mehta, Garima Agrawal**, Manthan Trivedi****

ABSTRACT

Several advances have taken place in cataract surgery recently. The length of the incision has been reduced and newer intraocular lenses (IOLs) have evolved. The technology is promising not only for good vision after cataract surgery but also less dependence on spectacles. The newer IOLs and technology corrects astigmatism and presbyopia. Microincision cataract surgey, toric intraocular lenses, multifocal and accommodative intraocular lenses are recent advances in this direction. The present article briefly reviews this changing paradigm of cataract surgery.

Introduction

The greatest gift of God to human body is a pair of eyes. The eyes acts as the finest camera anybody could ever design. Each eye ball is 9.5 gm in weight with in a sphere of 2.2 cm diameter. Its auto focusing mechanism is marvelous. It can focus anything from few centimeters to infinity in a microsecond. It is quite efficient in bright light and dark areas. It transmits millions of photographs to the brain. The photographic film layer (retina) is ever ready to capture images. Even after death, transplantation of cornea can give sight to a blind person. Human eye is made to see. The emmetropic eye focuses the light rays onto the retina. Myopic eyes focus light rays in front of the retina while hyperopic eyes focus behind it. In addition, astigmatic eyes have different focusing in different axes. All these problems are corrected with the use of glasses.

A crystalline lens within the eye helps in focusing the light rays on the retina. However, with advancing age and other diseases the lens becomes opaque or clouded known as cataract. The conventional treatment of cataract is surgical removal of cataractous lens. An artificial lens known as intraocular lens is implanted into the eye that focuses the light rays onto the retina and helps the patient to have clear vision. However, several factors need consideration with use of the intraocular lens implant (IOL). To focus light rays onto the retina accurate spherical IOL power calculation is essential. However in spite of accurate spherical power calculation many patients require glasses for distant vision after cataract surgery due to residual astigmatism or superadded surgically induced astigmatism. Distortion of cornea due to surgical wound leads to different focusing in different axes of the eye, i.e. post operative astigmatism. In addition, the IOL does not have the property of accommodation (vide infra) unlike the natural crystalline lens. Thus, all post cataract surgery patients need to use glasses for near vision. The question is, can there be freedom from glasses after cataract surgery? Micro incision cataract surgey (MICS), toric, multifocal and accomodative IOLS are steps in this direction. The present article discusses them briefly.

I. Micro Incision Cataract Surgery

To overcome the problem of surgically induced astigmatism the latest cataract surgical technology now aims of having small incision. Micro incision cataract surgery (MICS) aims at removing cataract via 1.8mm incision. The small incision minimizes the change of corneal shape after surgery with minimum post surgery astigmatism.[1,2] After removal of the cataract an MICS IOL (Fig.1) that can pass through 1.8mm incision size is placed in the capsular bag inside the eye.[3]

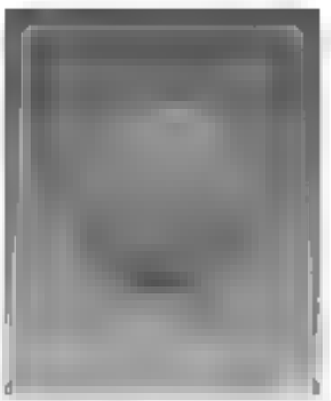

Fig.1. Micro incision intraocular lens implant

II. Toric Intraocular Lens Implant

In addition to minimizing surgical astigmatism through M.CS, pre existing astigmatism can be taken care of by toric intraocular lenses (Fig. 2). Toric IOLs have different power in different axes that helps to focus all rays on retina in the eyes.[4] The toric IOLs correct for pre and post operative astigmatism. The problem of glare and haloes that can be seen with multifocal lenses is not a problem with toric IOLs.

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Fig. 2: Toric intraocular lens implant

III. Multifocal Intraocular Lens Implant

The eyes have property of being able to see clearly at the far and near distance called accommodation. This is due to the ability of natural crystalline lens to change its shape to focus light rays from different distances onto the retina. Once the cataractous clouded lens has been removed this ability can be mimicked by the artificial lens. The lenses thus available are multifocal. The multifocal lens has the different zones of curvatures (power) on their surface which allow the light ray focusing from different distances (Fig. 3). They are of two types, refractive and diffractive type.

The multifocal diffractive IOL Tecnis ZM900, based on the Huygens-Fresnel principle, has a prolate aspheric anterior surface which reduces spherical aberrations. The multifocal diffractive ReSTOR has a central 3.6-mm apodized optic region where 12 concentric diffractive zones on the anterior surface have a gradual reduction in diffractive step heights from the center to the periphery. The IOL ReZoom is a second-generation refractive multifocal IOL and distributes light over five optical zones.[3] New IOL designs, with modified prolate surfaces, intend to reduce the total amount of spherical aberration in the eye, favoring visual quality.[4] The intraocular light-scattering and higher order aberrations due to refractive or diffractive optics may lead to a poor retinal image quality and undesirable symptoms such as disability glare, halos, and reduction of contrast sensitivity in patients implanted with multifocal intraocular lenses (IOLs).[4]

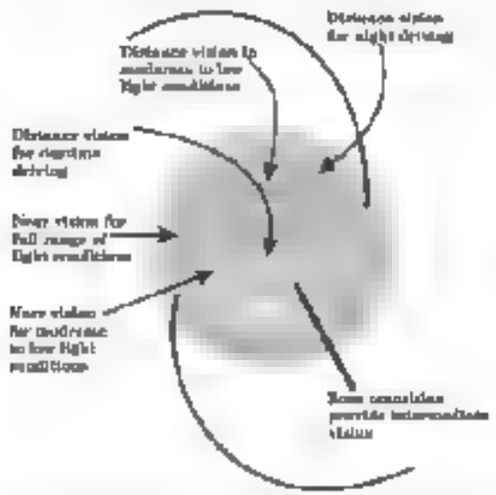

Fig. 3 . Mutifocal intraocular lens implant

IV. Accomodative Intraocular Lens Implant

Accommodative IOLs (Fig. 4) move / change shape to focus, the light rays just like the crystalline natural lens.[4] They are monofocal optics that can move or be deformed due to the residual postoperative astigmatism. They are now considered less efficient than multifocal optics as far as near vision is concerned, but they are better tolerated by patients because of absence of glare and haloes.

Fig. 4: Accomodative intraocular lens implant

Conclusion

Micro incision, toric, accommodative and multifocal IOLs all promise good vision and relative freedom from glasses after cataract surgery.

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An Epidemic Investigation of Cholera Outbreak in Ratanpur

Nitt Jhtania, Kunal Modi**, Rohit Ram***

ABSTRACT

A rapid response multidisciplinary team investigated cholera cases at Ratanpur village and Khecoj primary health center of Khedbramha taluka of Saberkantha district Gujarat state. It was observed that out of 57 cases of diarrhoea, 6 were positive for *Vibrio cholerae* by hanging drop method. Out of these, 3 died due to cholera with attack rate of 10.5%. The children and adults were infected. Studies show that the case-fatality rate in untreated cases is up to 30- 50%.The essential treatment is appropriate rehydration of the patients that should keep case-fatality rate below 1%.

Key words - Standard case definition, Surveillance, Case-fatality rate, Cholera

Introduction

Cholera is an acute diarrhoea disease caused by toxigenic strains of *Vibrio cholerae* serogroups O1 and O139. *Vibrio cholerae* O1 belonging to the El Tor biotype is the most common serogroup in India while the frequency of serogroup O139 has been declining over the past few years. India, which comprises of 28 states and 7 union territories, has a total population of 1.15 billion. Nearly two-thirds of Indian population lives in rural areas, where only 29% of households use piped drinking water and 36% have access to good sanitation.[1] According to National Health profile (2008), 11, 231, 039 cases of acute diarrhoea were recorded. Out of these, 2, 680 were cholera cases and only one death was reported. This represents a 24% increase in the number of cases with respect to the previous 5-year period (2000–2004).[2] In 2009, the number of cases of cholera reported to WHO increased by 16% when compared with 2008.[3]

Human beings are the only host in cholera. It affects all ages and both genders. In endemic regions, children are more susceptible. Natural infection confers effective immunity. Chronic carriers are rare. Poor sanitary conditions facilitate the growth and transmission of *Vibrio cholerae* through faeco-oral route and rarely through direct transmission, because the incubation period is very short (2 hours to 5 days) so the number of cases can rise quickly. Period of infectivity from onset of illness is about a week later. Infectivity rate depends on the infective dose.

A patient with cholera excretes an average of 10^7 – 10^9 vibrios per ml of stool. The common signs and symptoms include abrupt onset of profuse, painless watery diarrhoea with or without vomiting. The stool may have 'rice water appearance'. If untreated, the patient become dehydrated that may result into death. At least 50% cases are mild and remain undiagnosed. Case fatality rate range from <1% to 50 %, depends on the effectiveness of the health services.[4] In view of current epidemic, the aims and objectives were to investigate cholera cases and deaths and to provide accurate recommendations based on WHO guidelines.[4]

Methodology

A rapid surveillance (active, house-to-house/passive, PHC/lab) was carried out in predesigned and pre tested proforma from the informants, affected families and village leaders. Permission from commissioner was obtained. Data was collected after verbal consent from informants, affected families and village leaders and analyzed.

Observations and Results

Out of 776 houses in the community 569(73.32%) had been included in surveillance. Total population visited was 3378. Out of which, total 57(1.7%) had history of diarrhoea in which 32(56.14%) were from Ratanpur village. (Table I)

Table I : Verification of diagnosis in different villages in Sabarkantha District

Name of village	Total Population	Total houses	House visited (%)	Water supply		History of diarrhoea
				Well	Hand	
Chapad	1356	221	184(83.25)	3	2	8
Nava nota	1341	255	140(54.9)	2	3	17
Ratanpur	951	100	81(81)	13	14	32(56.14%)
Dhanmahudi	480	110	60(54.54)	2	4	17
Bavalkothiya	428	190	104(54.74)	3	3	14
TotalPHC Khecoj	4546	776	569(73.32)	16	17	47
Village khecoj	-	-	-	-	-	10
Total	Population surveyed		3378			57(1.7%)

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Out of 32 cases in Ratanpur, 10 were men and 22 were women. The age wise distribution of these cases is shown in Fig. 1

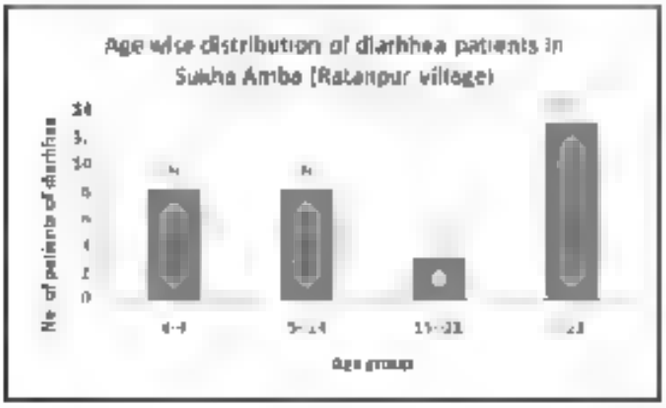

Fig. 1. Age wise distribution of diarrhea patients in Sukha Ambe (Ratanpur village)

A comparison of diarrheal cases in July, August and September month in previous three years revealed that there was increase number of diarrheal cases in month of July and August–2009 (Table II). The total cases of diarrhea increased in 2009 as compared to 2008 but decreased as compared to 2006, suggesting an epidemic of diarrhea. There were three deaths due to cholera (5yr boy, 3 yr boy and 70 yr woman) on 2nd August with Case Fatality Rate of 5.36%.

Table II: Comparison of diarrhea cases recorded in previous 3 years in July, August and September at primary health center.

	July		August		September		Total	
Year	Fever	Diarrhea	Fever	Diarrhea	Fever	Diarrhea	Fever	Diarrhea
2006	161	235	151	272	175	173	487	680
2007	140	171	159	213	160	109	399	433
2008	68	77	90	93	40	88	199	258
2009	42	124	20 As on 6th Aug	108	56	91	118	388

The control measures were adapted as shown in Table III. However, it was not sufficient to control cholera as the well water was highly contaminated with fecal material.

Table III: Control measures under taken by Rapid Response Teams at Kheroj

1.	Surveillance of affected villages	6
2.	Number of Medical Officers	6
3.	Number of Para medicals	10
4.	Total Cases	
	Diarrhoea + vomiting	41
	Only diarrhoea	52
	Only vomiting	3
	Cholera positive	6
5.	Number of deaths due to diarrhoea	3
6.	Houses surveyed	81
7.	Examination of water sample	3
8.	Examination of stool sample	3
9.	Chlorination in emergencies	8
10.	Chlorination of well	8
11.	Chlorination of tanks	8
12.	Orthotolidine test	0.5 ppm
13.	TCL powder used	200 kg
14.	ORS packets	2000

Discussion

The case fatality rate showed a somewhat decreasing trend (range: 0.57–0.07). The number of cholera cases and deaths in present study were found to be more (5.26%) as compared to reported at WHO [6]

The control measures for diseases spread by the fasco-oral route includes, an adequate supply of potable water, improved sanitation and the promotion of good hygienic practices, especially in developing countries like India, remain the mainstay for preventing both endemic and epidemic cholera. The combined efforts in health, family planning and nutrition are effective measures. Major outbreaks of cholera usually result from interplay of factors, such as favorable climate conditions and poor sanitation. Local capacity for improved diagnosis, data collection, compilation and analysis needs to be strengthened so that vulnerable populations living in high-risk areas may be identified and offered comprehensive control activities.

It has been observed that in Bangladesh and Peru cholera vaccine is safe and confers 85–90% protection for 4–6 months among all age groups. This new vaccine opens up wider possibilities for public-health use in cholera-endemic

countries, particularly in Asia, because it is a bivalent O1 and O139 vaccine, has no recombinant B subunit and, thus, does not require the administration of a buffer.[4]

Under the International Health Regulations (2005), official notification of all cases of cholera is no longer mandatory, however public health events involving cholera must always be assessed against the criteria provided in the Regulations to determine the need for official notification.[5]

Recommendations by WHO[4]

According to the WHO Standard Case Definition," a case of cholera should be suspected" when,

- In an area where the disease is not known to be present, a patient aged 5 years or more develops severe dehydration or dies from acute watery diarrhoea.
- In an area where there is a cholera epidemic, a patient aged 5 years or more develops acute watery diarrhea, with or without vomiting.
- A case of cholera is confirmed when *vibrio cholerae* O1 or O139 is isolated from any patient with diarrhoea.
- Laboratory confirmation of the first 10-20 cases is essential to ascertain cholera outbreak. It is important to gather information on

  Serogroup of *vibrio (O1 or O139)* and antimicrobial sensitivity patterns.

Measures for Precautions and Preparedness

- "Pre-position" supplies should include IV fluids and ORS – most patients can be cured with ORS alone.
- A need assessment, including the inventory of supplies available and needed, should be completed before the cholera season.
- Training of professionals to treat cholera
- A good inventory of all water sources, obtained through sanitary surveys, is useful for identifying potential risks of contamination.
- Regular analysis of baseline data (person, place, time) is therefore valuable for adequate preparedness and for efficient monitoring of the cholera situation.
- Acidifying foods with lemons, tomatoes, yoghurt, fermented milk help to inhibit the growth of *V.cholerae*.
- Ensure disinfection of corpses with a 0.5% chlorine solution. For transporting corpses of cholera patients, corpse-carriers should wear gloves.
- Alert health personnel and hospitals to report increase or clustering cases of diarrhea.
- Random checks for water quality for coliform organisms (faecal contamination in high risk pockets of Khoro).

Precautions at treatment centers

1. Tetracycline/doxycycline should be given to cholera cases for 3 days and also to contact cases in family
2. Universal infection control measures such as face masks, gloves or special staff should be used.
3. Carriers should be followed for 2-4 weeks.

Precautions at home and in the community

1. Bedding, clothing, mattresses should be disinfected by thorough drying in sun light.
2. Disposal of cholera stool is by putting them in a pit latrine or burying them.
3. Chlorination of drinking water with commercially available chlorine-releasing tablets.

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Endoscopic Fulguration in Small Vesico-Vaginal Fistula

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ABSTRACT

Objectives

Vesicovaginal fistula (VVF) is a common condition which is physically and mentally debilitating for the patient. It often results due to neglected obstetric care. The surgical treatment options for repair of VVF consist of transvaginal, transvesical and laparoscopic repair Endoscopic management of VVF on day care basis by fulgurating the fistulous tract is a minimally invasive method for small fistula involving the lower genitourinary tract. The present study evaluates the efficacy of fulguration for the conservative treatment of urinary fistula of different aetiologies using endoscopic approach.

Materials and Methods

From September 2008 to December 2010, seven patients with VVF less than 0.7 cm underwent endoscopic fulguration under cystoscopic guidance on day care basis. All the patients were prescribed anticholinergic medications and per urethral catheter was kept for three weeks post operatively Cystoscopy was performed at the end of three weeks to confirm healing of fistulas.

Results

Cystoscopic examination showed that out of seven patients, there was complete healing of fistula in six patients However, in one patient VVF was persistent on follow up cystoscopy This patient underwent repair of the fistula by vaginal route successfully.

Conclusion

Endoscopic transvesical vesicovaginal fistula fulguration appears to be a safe and effective procedure for small VVF, on day care basis with decreased morbidity, improved cosmesis and decreased hospital stay.

Key Words

Vesico vaginal fistula, Endoscopic fulguration

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Introduction

Vesico-vaginal fistula (VVF) has been a social and surgical problem for centuries. In the developed world 90% of cases are caused by inadvertent injury to the bladder during surgery. Obstetric VVF related to prolonged labour remains a major medical problem in many underdeveloped countries with a low standard of obstetric care.[1] In 1852, Sims reported a successful repair of VVF in female slaves[2], since then, many surgical techniques have been developed to correct this abnormality, including transabdominal, transvaginal and laparoscopic approaches. The selected route of repair depends mostly on the training and experience of the surgeon. The best approach is probably the one with which the surgeon feels most experienced and comfortable. For women who have a VVF during or after recovery from a gynaecological procedure, the prospect of undergoing further surgery and recovery can also be stressful, especially if laparotomy is required. For small VVF, endoscopic conservative treatment has become increasingly popular, reducing the invasiveness of treatment and shortening the period of convalescence. The main advantage of this procedure is that it can be done on day care basis, is minimally invasive and with minimum morbidity. We evaluated the efficacy of fulguration for the conservative treatment of urinary fistula of different aetiology using endoscopic approach

Material and Methods

A prospective study of seven patients selected for endoscopic electrofulgration of the VVF of size less than 0.7 cm. The study was carried out between September 2008 to December 2010 at CHA Ahmedabad. The patients were included based on available literature for successful management of small fistulas by electrofulguration. Patients having VVF more than 0.7cm and presence of severe inflammation were excluded. The details of the patients are shown in the table 1

Table 1. Details of patients with VVF and the outcome of endoscopic electrofulgration

Etiology of VVF	Size of fistula (cm)	Duration of catheter (weeks)	Outcome
Post abdominal Hysterectomy	0.5	3	success
Post abdominal Hysterectomy	0.7	6	failed
Post vaginal Hysterectomy	0.5	3	success
Post vaginal Hysterectomy	0.6	3	success
Post abdominal Hysterectomy	0.5	3	success
Post abdominal Hysterectomy	0.5	3	success
Post Caesarean Section	0.5	3	success

Procedure

Fistulous tract was electro-coagulated by putting bugbee electrode inside the fistulous tract as far as possible endoscopically [Fig.1]. The electrode was slowly withdrawn from the track with electrode on coagulation, till the edges of the fistula track blanched

Fig. 1: Intra operative picture pre-fulguration

[Fig. 2]. Care was taken not to overcoagulate as this can cause widespread tissue necrosis, sloughing and enlargement of the fistula. The patient was discharged on the same day evening with a catheter to drain the urine. The catheter was kept for three weeks and patients were prescribed anticholinergics to relax the bladder. At the end of three weeks, post operative cystoscopy was done and the catheter was removed after confirming healing of fistula and no persistent leakage (Fig.3 & 4).

Results

The mean age of patients included in the study was 40 years (32 to 45). Four patients had history of abdominal hysterectomy. Of the seven patients

Fig. 2: Post VVF-fulguration cystoscopic view

operated endoscopically, six had successful outcome in the form of absence of leakage on follow up. One patient had persistent fistula on follow up cystoscopy and the fistula size was 0.7cm. Catheter was kept for next three weeks as patient was complaining of persistent urinary leakage. The patient underwent successful pervaginal repair. The average hospital stay for endoscopy VVF was 16 hours. All the patients were discharged after recovering from spinal anaesthesia.

Discussion

Abdominal hysterectomy is the most common cause of VVF in developed countries.[5] In most cases, a definitive cure of a VVF requires surgery; and large VVF never resolves with conservative management. Three to six months waiting period between the development of a postoperative VVF and surgical closure has been recommended to allow the inflammation to subside.[6] An endoscopic electro fulguration approach may provide a minimal invasive

Fig.-3:-Pre operative cystogram

option with less post operative morbidity, better cosmesis and diminished hospital stay. Curettage of fistula track with screw followed by prolonged catheterisation has been reported to be successful in a small series of patients by Aycinena.[5] O'Conor (1938) applied electro coagulation for small highly situated fistula.[6] Stovsky and colleagues (1994) reported success in 11 out of 15 patients by electro coagulation

Fig.-4 Post operative cystogram showing complete healing

of small fistula of less than 3.5 mm.[7] It was suggested that disruption of the epithelial component with subsequent fibrosis with scarring and closure of the track is the mechanism by which electro coagulation exerts its effect. Falk and Arkin (1957) successfully treated eight patients with less than 3 mm size fistula with electro coagulation and catheter drainage for ten days.[8] Our observations are comparable to existing literature.

Conclusion

Endoscopic vesicovaginal fistula electro coagulation appears to be a safe and effective procedure for small fistula less than 0.7 cm on day care basis with decreased morbidity, improved cosmesis and decreased hospital stay. In general this conservative approach is useful for small oblique fistula of less than 0.7 cm in diameter with all the advantages of minimal invasive surgery.

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Prevalence of Thalassemia and Hemoglobin Variants in Out Patient Laboratory of Civil Hospital, Ahmedabad

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ABSTRACT

Objectives

Inherited disorders of hemoglobin are common and their identification is essential epidemiologically to prevent serious disorders. The study was conducted to find out the prevalence of hemoglobin variants in patients attending out patient laboratory at Civil Hospital, Ahmedabad.

Materials and Methods

Total 446 cases were scrutinized on basis of Mentzer's index (MCV/RBC count <13) and sent for HPLC at Red Cross society, Ahmedabad.

Results

Out of 446 cases, abnormal Hb fraction was found in 107(23.9%) cases. Beta thalassemia trait was found to be predominant. Other Hb variants like HbS, HbE, Hb D Punjab, HbF and some double heterozygous Hb variants like HbS-α thalassemia, HbD-β thalassemia were also observed.

Conclusion

Beta thalassemia trait was found to be predominant.

Keywords: High performance liquid chromatography, Hemoglobinopathies, Hb variants, Thalassemia

Introduction

Abnormalities of hemoglobin synthesis are common inherited disorders. These disorders can be quantitative (thalassemia syndrome) or qualitative (variant HbS).[1] Of these, thalassemia syndromes particularly β thalassemia major and certain α thalassemias are serious and major cause of morbidity. Accurate and timely detection of various hemoglobin variants including β thalassemia heterozygous can prevent the occurrence of more serious disorders like thalassemia major in newborns. Potential interactions between various Hb variant in heterozygous state may lead to serious homozygous Hb variants in the offspring. Double heterozygous state between certain variants can also lead to haematological defect.

The use of cation exchange HPLC to separate and quantify various normal and abnormal hemoglobin fractions has been recommended.[2-5] It is highly sensitive, specific, fast but more expensive method for diagnosis.[6] Majority of centres in India use conventional methods for the diagnosis of hemoglobinopathies that includes clinical and family history, red cell indices, CBC, Hb F estimation, sickling test and Hb electrophoresis. However, these methods have limitations including identification of Hb variants with same electrophoretic mobility, diagnosis of HbS traits where low quantity of HbS is associated with negative sickling test and diagnosing compound heterozygous states (HbS-Beta thalassemia, HbS- HbD disease).

Material and Methods

The present study was carried out at out patient pathology laboratory, Civil Hospital, Ahmedabad (CHA) for a two month's period from Nov to Dec 2010. A total 5298 patients attended the laboratory. Of these, 971 cases had microcytic hypochromic anemia. Among these, 465 cases were selected on the basis of Mentzer's index (MCV/RBC count <13) and sent to Red Cross Society for HPLC. Specimens were drawn into K_3 EDTA tubes with BD (Becton Dickinson) vacutainer system. After collection, the samples were stored at 2-8°c and tested within a week. CBC with red cell indices and peripheral blood examinations were done in all cases. The samples were assessed by Bio-Rad Variant utilising the principle of HPLC.

Results

Out of these 465 cases, 107 cases displayed abnormal Hb fraction(Table-1). Men (63) are more commonly affected (Table-2). The major abnormality observed was high Hb-A_2(95). Cut off value of over 3.9% was taken for diagnosis of β thalassemia trait.[7] Majority of beta thalassemia trait were reported in 21-30 years of age group

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Table 1: Spectrum of Hemoglobinopathies (n=107)

Diagnosis	No of cases	Hb variant	Retention time minute
Thalassemia minor	95 (20.38%)	HbA2 (3.9-5.9%)	3.64-3.69
Thalassemia major	1 (0.21%)	HbA2 (4%) HbF (91.3%) HbA (4.4%)	3.58 1.22 3.59
Sickle cell disease	1 (0.21)	HbS (67.1%) HbF (27.6%)	4.41 1.14
Sickle cell trait	2 (0.42%)	HbS (32.9-35.2%)	4.45- 4.47
Hbs-α thalassemia trait	1(0.21%)	HbS (25.3%) HbA2 (3.4%)	4.41
HbD TRAIT	3 (0.63%)	HbD (31.3-31.5%)	4.12-4.15
HbD punjab-αthalassemia trait	1 (0.21%)	HbD (85.2%)	4.01
HbE trait	1 (0.21%)	HbE (25.7%)	3.67
HbF elevation	2 (0.42%)	HbF (86.2%) HbA2 (2.68%)	1.18 3.65
		HbF (17.4%) HbA2 (2.5%)	1.14 3.65

Table 2 : Gender wise distribution of Hemoglobinopathies.

Diagnosis	Men	Women	Total
Thalassemia minor	56	38	95
Thalassemia major	01	00	01
Sickle cell disease	01	00	01
Sickle cell trait	02	00	02
Hbs-α thalassemia trait	00	01	01
Hb D trait	02	01	03
Hb D Punjab- β thalassemia trait	00	01	01
Hb E trait	00	01	01
Hb F elevation	01	01	02
Total	63	44	107

Discussion

The laboratory diagnosis of hemoglobinopathies and thalassemias is essential for confirmation of sickling disorders and thalassemia major, to find out the cause of underlying haematologic abnormality (such as anaemia, microcytosis or polycythemia), for neonatal screening, to identify the abnormality in the pre symptomatic phase, to predict serious disorders of the globin – chain synthesis in the foetus and offer the option of termination of pregnancy and to permit genetic counselling of prospective parents.[7]

Our study predominantly included patients attending Out patient Pathology laboratory, CHA. A total of 22.74%Hb variants were detected. β thalassemia trait formed the largest subgroup of abnormal group (20.38%),and β thalassemia major was seen in one patient (0.21%). The low incidence of homozygous state of the disease may be either to decrease incidence of the disease due to effective prenatal screening or may be due to under reporting.

Majority of β thalassemia trait (20.38%) were reported in 21-30 years of age group. The high incidence of traits underscores the need for antenatal screening for prevention of thalassemia major in the offspring. Conditions with borderline HbA2 need careful interpretation. Iron deficiency may lead to low HbA2 and hence may mask thalassemia trait, whereas B_{12} (folate) deficiency may lead to slightly raised HbA2 leading to a false diagnosis of a trait. Careful evaluation with indices with iron profile will usually help in such cases. Similarly milder forms of thalassemia or a co-inheritance of delta thalassemia may lead to border line HbA2 levels. Genetic testing should be advised in such cases for a conclusive opinion.

HbS homozygous presented as S window of 67.1% with Hb F 27.6% in one case (0.21%). Value of Hb F are generally raised in parts of Central India and Orissa.[9] Sickling test was positive. One case of double heterozygous for HbS-α thalassemia trait showed S window of 25.3%. HbS level was reduced to < 30% in association with α thalassemia with raised RBC (red blood cell count), low mean corpuscular volume (MCV) and low mean corpuscular hemoglobin (MCH).

HbO Punjab tends to have a normal phenotypic presentation. There is a mutation in the β chain at β121 Glu-Gln (GAA-CAA).[9] HbD Punjab was observed in four (0.84%) cases. On HPLC it elutes in D window, separate from HbS peak. Patients with co-existent HbO and β thalassemia trait tend to have mild anaemia and are asymptomatic. Molecular diagnosis is required for final confirmation.

HbE results from a β chain mutation (β26 Glu→Lys)[10] and tends to elute in A2 window on HPLC. HbE homozygous individuals are normal, HbE levels are usually 30% which elutes in the HbA2 window. The percentage of HbE may be low in case of co-existence iron deficiency and α thalassemia mutation. The possibility of α thalassemia, normal A2 α thalassemia or other hemoglobinopathies that elute similar retention values cannot be ruled out by HPLC. A disclaimer should always accompany the reports.[11]

2 cases had isolated Hb F elevation with normal blood counts. A possibility of hereditary persistence of fetal haemoglobin was raised in such cases with a recommendation of molecular confirmation.

The Bio-Rad HPLC systems are automated cation exchange HPLC instruments that have been used to quantify HbA2, HbF, HbA along with screening hemoglobin variants like HbS, HbD, HbE and HbC in a single, highly reproducible system, making it an excellent technology to screen for hemoglobin variants and haemoglobinopathies along with thalassemia. With the integration of proper algorithm involving retention time, hemoglobin and RBC indices, a clinical laboratory is capable of identifying about 75% of the common variants encountered without the need for confirmatory studies such as alkaline and acid electrophoresis.[8]

Our study had 20.38% β thalassemia trait. Early detection of these traits will prevent occurrence of thalassemia major in the offspring. More importantly ,identification of the common hemoglobin variants(i.e. HbD Punjab, HbE and β thalassemia) in combination with HbS lead to clinically significant sickling disorder which can be quickly and accurately accomplished by HPLC without the need for confirmation testing.[12]

The observations must be supplemented by haemogram findings, family/sibling studies, Hb electrophoresis, other confirmatory techniques and molecular studies based on HPLC findings and on a case to case basis.[11]

In conclusion, the simplicity of sample preparation, accurate quantification of hemoglobin concentrations combined with complete automation make HPLC an ideal methodology for the routine diagnosis of Hb disorders. β thalassemia trait was found to be predominant.

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'A good lecturer is a text-book plus personality.'

- Flexner

But, all too often, the personality is missing and the lecture becomes "a process by which information is transferred from the notes of the lecturer to the notes of the students without going through the minds of either"

- Sir Joseph Bancroft

Awareness Regarding First Aid and Fire Safety in Medical Students.

Mounik Vyas[*], Pooja Chaudhary[*], Bhavik Rana[*], Jatin Amaliyar[**], Dinesh Rathod[***]

ABSTRACT

Background

In view of increasing number of road traffic injury (RTI) and medical emergency, it is important to have adequate knowledge and practical training among community members and students. Medical students are taught to handle these emergencies in a hospital setting where all the facilities are available. However, this may not be adequate to deal with the disaster at the emergency site without necessary hospital facility. The objective of this study was to find out the extent of awareness among undergraduate medical students in providing first aid and fire safety measures and the effect of training in this regard.

Material and Methods

A three day workshop on first aid and fire safety was conducted to impart knowledge and practical training to 45 medical students. Pre and post test questionnaire was used to assess the knowledge. The data was analyzed using descriptive and inferential statistics.

Results

There was a significant ($p<0.05$) increase in awareness following three day workshop.

Conclusion

Training regarding first aid and fire safety can prepare community volunteers to help decrease mortality due to RTI and emergencies.

Introduction

The World Health Organization's South-East Asia (SEA) region bears 31% of the world's burden of injury and 27% of injury related mortality.[1] Young people face the major brunt. Road Traffic Injury (RTI) is the biggest offender in most of these countries. Emergency Medical Response time is defined as the interval of the notification for the emergency ambulance service and arrival of the ambulance at the victim's location. A good number of victims were provided the emergency service with response time of less than 8 minutes in Goa (35%), Karnataka (34%) and Andhra Pradesh (31%); majority of cases with response time of 9-15 minutes was observed in Rajasthan (41%), Madhya Pradesh (38%), Meghalaya (37%), Gujarat (34%) and Tamil Nadu (33%); the response time was found to be high (above 16 minutes) in Uttarakhand (65%,) and Assam (64%). The mean response time varied between 18-28 minutes and it varied due to different regions of the existing landscape and terrains of different operating states.[2] Hence the first few minutes are very important for survival of victims. Emergency preparedness is a programme of long term development activities whose goals are to strengthen the overall capacity and capability of a country to manage efficiently all types of emergency.[3] Local community and voluntary agencies including Non Government Organizations (NGOs) are usually the first responders in the aftermath of a disaster.[4] If they are trained for providing first aid and ways to approach the fire sites for rescue work, they can definitely help to minimize mortality in such incidences.

National Service Scheme (N.S.S.) is government scheme which motivate college student volunteers to serve the nation during their free hours. The adequate knowledge and skills required for handling an emergency at the accident sites without hospital / health care set-up may not be available to volunteers including undergraduate medical students. Imparting this knowledge and skill boost up their helping attitude. With this background the work was conducted with following objectives:

- To find out the level of awareness of undergraduate medical students volunteers in providing first aid and fire safety measures after training.
- To prepare first aid volunteers for community disaster management.
- To analyze possibilities of using these volunteers as resource persons for community disaster management training.

Material and Methods

A three day training cum workshop (theory and practical) on first aid and fire safety was conducted by National Service Scheme (N.S.S) unit of B. J. Medical College,

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A comparison of questions on first aid showed significant improvement in the awareness following training in the study group (table I).

Table – I : Comparison of pre and post test responses on awareness in first aid following training.

No	Awareness regarding (Correct answers)	Pre test [n=49]	Post test [n=43]
1	Head tilt and chin lift method	10 [20.4]	38[88.4]*
2	Ideal chest compression method	8[16.3]	35[81.4]*
3	Management of person in road traffic accident	33 [67 3]	26[60.5]*
4	Heimlich maneuver	11[22.4]	34[79.1]*
5	Recovery position	10[20.4]	38[88.4]*
6	When to say Brain Death	14[28.6]	30[69.8]*
7	Site of Chest compression mark	31[63.3]	29[67.4]
8	Snake bite management	33[79.6]	39[90.7]*
9	Correct application of breathing and chest compression	7[14.3]	42[97 7]*
10	Best position of victim for C.P.R.	43[87.68]	42[97 7]
11	Management of traumatic bleeding	8[16.3]	2.[48.8]*
12	Voltage of DC shock in cardioversion	20[40.8]	25[58.1]
13	Preferred way of checking breathing	22[44.9]	41[95.3]*
14	AMBU bag	22[44.9]	23[53.5]

* $p< 0.05$

There was also significant increase ($p<0.05$) in the knowledge regarding fire safety after training (Table II). Out of 6 awareness check points, 5 shows marked improvement.

Table -II : Comparison of pre and post test responses on awareness regarding fire safty following training

No	Awareness regarding (Correct answers)	Pre test [n=49]	Post test [n=43]
1	Abbreviation/Acronym used in Fire safety	6(12.2)	31(72.1)*
2	Most common cause of lost lives in a fire incidence	10(20.4)	18(41.9)*
3	How does CO_2 extinguisher put out a fire?	44(89.8)	40(93.0)
4	How does water type extinguisher put out a fire?	33(67.3)	40(93.0)*
5	How does foam extinguisher put out a fire?	28(57 .)	37(86.0)*
6	Type of fire where CO_2 extinguisher be used on	14(28.6)	37(86.0)*

*$p< 0.05$

Ahmedabad to impart knowledge and skills regarding first aid and fire safety measures (Fig.1). Forty five undergraduate medical students participated in the study. Pre test and post test questionnaire was used to assess the impact of training. The data was analyzed using Epi info Version 3.5.1

Fig: 1 Practical training on first aid and fire safety to medical students

Total 49 student volunteers (33 boys and 16 girls) participated in pre test. Majority (69.2%) of them were below 21 years and in 5th semester. Total 43 volunteers (25 boys and 18 girls) participated in post test and 20 studied up to 5th semester. Out of 43, 60.4% were residing in hostel and 39.5% were non hostelite.

Discussion

With the developmental activities of humans and resulting environmental changes, disasters and accidents are frequent cause of morbidity and mortality. Due to lifestyle changes, prevalence of various non-communicable diseases is also rising which may lead to sudden deaths. In all these situations, if immediate care is given in form of first aid or basic life support, the burden of morbidity and mortality can be reduced significantly.

The study shows that after training there was significant increased in the awareness regarding first aid and fire safety. In addition, a positive attitude to attend accident victims was also observed. Trainees were ready to impart this knowledge to needy community e.g. schools and colleges and other institutes. Same results have been reported in nursing staff of similar age by Saini et al.[5]

The trainee medical students can work as master trainers for teaching first aid, fire safety and disaster management issues to school teachers who then can impart this knowledge to their pupils. Other study also demonstrates that primary school teachers, previously trained by medical students, can teach basic life support effectively to 10-12 years old children using the 'ABC for life' programme.[6] Training the trainers will be useful for designing and implementing skill based training for school teachers and community volunteers on a very important public health concern.

Conclusion

Trained N.S.S. volunteers of medical college may be used as trainers and managers of First Aid and Fire Safety. They can be master trainers for conducting similar training in different setting and different target population.

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Occult Papillary Thyroid Carcinoma Presented as Cervical Lymphadenopathy

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ABSTRACT

Papulary carcinoma of thyroid gland is most common form of thyroid malignancy. It generally carries a good prognosis until it remains intrathyroidal and/or metastasize locally to regional lymph nodes. Although, within all the differentiated carcinomas of the thyroid the incidence of nodal metastasis is highest in the papillary subgroup, the appearance of a latera. cervical cystic mass as initial presenting symptom of occult thyroid carcinoma is uncommon. We report a case of multiple cervical cystic masses in 25 year old male patient with normal thyroid gland. Ultrasonography examination showed multiple solid mixed echogenic lesions in the right side of the neck with normal thyroid lobes. Although distant metastasis in papillary carcinoma thyroid behaves more aggressively and have poor prognosis, cervical metastasis carries good prognosis if total thyroidectomy with neck node dissection is performed.

Introduction

Papillary carcinoma is the most common type of thyroid cancer, representing 75% to 85% of all thyroid cancer cases.[1] It occurs more frequently in women with 30-40 years of age group. It is also the predominant cancer type in children among all the thyroid cancer and in patients with previous radiation to the head and neck Cervical metastasis (spread to lymph nodes in the neck) is present in 50% of small tumours and 75% of the larger thyroid cancers.[2] The presence of lymph node metastasis in cervical region causes a higher recurrence rate. Distant metastasis (spread) is uncommon, with lung and bone being the common sites.[3] Tumours that invade or extend beyond the thyroid capsule have a worsened prognosis because of a high local recurrence rate. We report a case of multiple metastatic lymph node mass with occult primary in thyroid gland.

Case History

A 25 year old male patient presented with multiple painless swellings in right side of neck since 2 years, gradually increasing in size.

Local examination revealed three discrete swellings, measuring 4x3 cm in right lateral aspect of neck involving posterior triangle, 1.5x1 cm in right lateral aspect of neck involving anterior triangle, and 1x1 cm in right supraclavicular region. The swellings were smooth with indistinct borders, firm in consistency, mobile and non-tender. No other abnormality was detected in thyroid and in left side of the neck. Ultrasonograpy (USG) examination revealed multiple solid to cystic mixed echogenic lesions in the right side of neck with normal lobes of thyroid gland.

During fine needle aspiration from all the three sites a brownish fluid was aspirated. Haematoxyhn and Eosin stained smears from all the three different sites showed same morphology with moderate cellularity. Smear showed well formed complex papillae with well formed "anatomical" edge and central fibro-vascular core along with nuclear crowding and overlapping, showing-gum

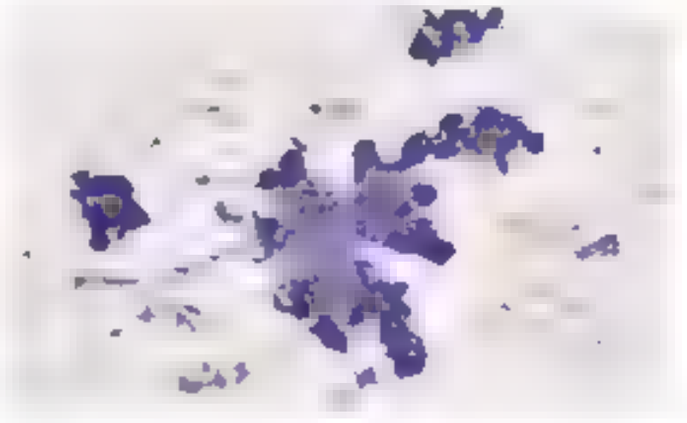

Fig 1. Scanner view showing well formed complex papillae with a well formed "anatomical" edge and central fibro-vascular core along with nuclear crowding and overlapping in a papilla

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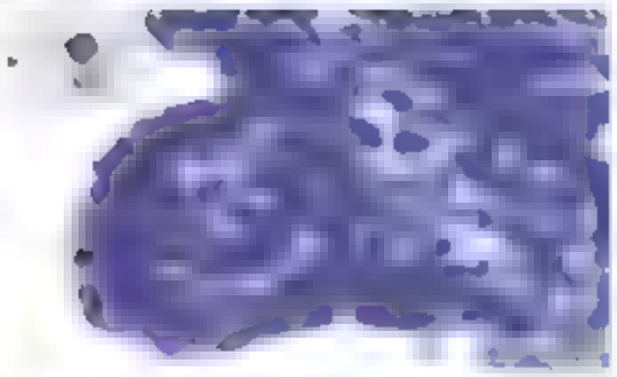

Fig 2 . Smear shows nuclear features of papillary carcinoma of thyroid, showing psammomatous calcification and cystic macrophages.

colloid, cystic macrophages and psammomatous calcification. Nuclear groove and inclusion was also seen. (Fig 1 & 2) The condition was diagnosed as metastatic papillary carcinoma of thyroid with probable occult primary. The patient underwent radical neck dissection with total thyroidectomy. Histopathology of thyroid and lymph nodes confirmed papillary carcinoma thyroid with metastases in lymph nodes

Discussion

Papillary carcinoma of thyroid presents itself as the regional lymph node metastasis from an occult primary source in 10 - 15 % cases.[3,4] It can undergo cystic transformation. This process may also occur in the metastatic lymph nodes, in which a subcortical liquefactive necrosis results in a cystic mass.[4] Although it is more common in young women, the present case was in a young man. Very few cases with cervical cystic metastatic papillary carcinoma with occult primary in the thyroid gland are reported till date and we found a case with multiple metastatic lymph node mass with occult primary in thyroid gland. Branchial cleft cysts and the main cervical lymph nodes share the same location along the sternocleidomastoid muscle. This may cause diagnostic difficulties in differentiating the cystic masses caused by primary bronchogenic carcinoma or metastatic tumours.[5] Lateral cervical cysts are usually benign lesions, occurring predominantly in young people.[6] Malignant lateral cervical cysts are less frequent, and arise mainly from upper respiratory and digestive tracts. In these cases, the primary tumour can be diagnosed by different diagnostic procedures, such as CT or MRI. Tumours arising in the thyroid gland, in particular occult papillary carcinomas, are mostly not detectable by these imaging methods.[5] As high resolution scintigraphy is required for the same Papillary carcinoma of thyroid behaves as a low grade malignancy.[3] Although the anterolateral group of cervical lymph node is at greatest risk for metastases of papillary carcinoma thyroid, it can be found at any level of neck, as there is no predictable pattern of spread and skip metastases is common.[6,7] Hence, aggressive surgical approach is required to treat the cervical metastatic papillary carcinoma of thyroid.[3] Overall prognosis is good if total thyroidectomy with entire neck dissection is done.[6]

Conclusion

Considering the limitations of the FNAC techniques for evaluation of cystic lesion in the lateral aspect of neck, metastatic papillary carcinoma should be included in the differential diagnosis.

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Mullerian Duct Anomaly: A Rare Diagnosis

Disha Sakhuvera, Khushbu Maheshwari*, Ajesh N Desai**, Vijay M Kanzaria***, Pallavi G Nanma****

ABSTRACT

We report a case of bicornuate uterus with complete hemivagina obstruction and ipsilateral renal agenesis that presented as vaginal discharge. Laparoscopic adhesiolysis with resection of oblique vaginal septum was done. The abnormality is classified as class III(a/ii/.ii) based on literature review and embryology

Key Words: Bicornuate uterus, renal agenesis

Case History

A 21 year old patient came to Obstetrics and Gynecology outpatient department, with complains of foul smelling vaginal discharge and dysmenorrhea since 2 months. She had irregular, excessive and painful menstrual periods. Obstetric history revealed that she had one baby of 9 months delivered by caesarean section and bicornuate uterus was diagnosed during surgery. Per speculum examination revealed pinpoint cervical os, foul smelling vaginal discharge, bulging left anterolateral fornix. Per vaginum examination was painful. Uterus was deviated to right side with restricted mobility. Left fornix was bulging. Ultrasonography (USG) examination showed bicornuate uterus with well developed two horns with total uterocervical length, anteroposterior transverse diameter, and endometrial thickness of average dimensions. There was fluid collection beneath the left os. USG KUB showed absent left kidney. Intravenous pyleography confirmed absence of left kidney and ureter. Provisional diagnosis of bicornuate bicollis uterus with oblique vaginal septum covering left os was made. Operative laparoscopy with examination under anesthesia was planned. Laparoscopy showed flimsy adhesions extending from reproductive organs to anterior abdominal wall, equally developed two horns of uterus, enlarged corpus luteal cyst in left ovary, normal right and left tube and ovary (Fig.1). Per speculum examination confirmed earlier findings. Laparoscopic adhesiolysis was done. Per speculum serosanguinous fluid was aspirated. Resection of septum was done. Uterine sound could be passed in each cavity. Vaginal packing was done. Patient was treated with antibacterials for 14 days. Follow up on tenth postoperative day showed two cervical os with boundaries of resected septum between them. USG

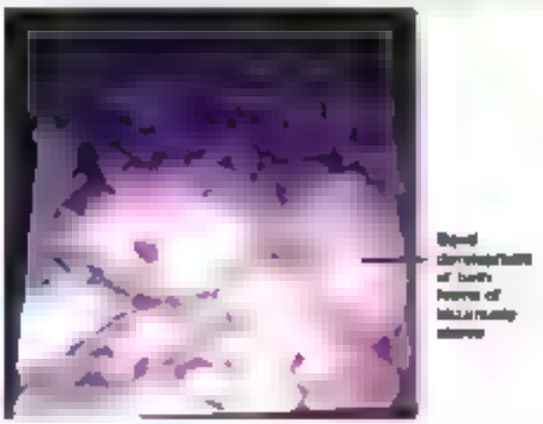

Fig. 1. Laparoscopy showing two horns of uterus

examination confirmed bicornuate bicollis uterus with no collection.

Discussion

Incidence of mullerian duct anomaly is 0.1 to 0.3%. Defects of fusion between the two mullerian ducts is termed as lateral fusion, mullerian system and sinovaginal bulbs is vertical fusion defect. According to Modified American Fertility Society classification lateral fusion defects form class III. Asymmetric obstructive variety which includes double uterus with ipsilateral obstructive hemivagina as third type. This is further classified into three groups as a) double uterus with non communicating cavity with complete hemivagina obstruction (b) double uterus with non communicating cavity with incomplete hemivagina obstruction (c) double uterus with communicating cavity with complete vaginal obstruction. Ipsilateral renal agenesis is found in these cases. Thus the present case could be classified as class III (a/ii/.ii). [1] The patient developed infection resulting into purulent discharge. The two horns were connected as there was no hematometra, no endometriosis and the pus collected beneath the left os was seen coming out through the other os. Having a partial vaginal septum which shows inadequate fusion, two cervices showing non fusion and fused uterine cavity showing complete fusion disproves classical theory of caudal to cranial fusion of mullerian system.[2]

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Endovenous Laser Ablation of Great Saphenous Vein in Treatment of Varicose Veins

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ABSTRACT

Symptomatic lower extremity varicose veins represent one of the most common vascular conditions in the adult population. The clinical symptoms may vary from fatigue, heaviness, itching to skin discoloration and leg ulceration. The predominant causative factor is reflux of the great saphenous vein (GSV). The condition is conventionally treated with surgical saphenofemoral ligation and stripping of the incompetent saphenous vein. Recently there have been significant advances in saphenous vein ablation using percutaneous techniques, including the endovenous laser ablation (EVLA). We present our short term observations of EVLA in GSV ablation few patients. Current literatures support EVLA as a safe and effective treatment option for varicosities caused by GSV incompetence

Key words

Great saphenous vein, Varicose veins, Endo venous laser ablation

Introduction

Varicose veins are elongated and tortuous. The term commonly refers to the veins on the lower limb, although it can also occur in other parts of body. Veins have leaflet valves to prevent retrograde flow of blood. Calf muscles pump the veins to return blood to the heart, against the effect of gravity. Incompetence of valves causes retrograde flow of blood leading to elongation and tortuosity of veins and thus may be congenital or acquired. Prolonged standing, deep vein thrombosis and external compression of the central veins lead to varicosity. Besides cosmetic problems like skin discoloration and leg ulceration, varicose veins are often painful, especially when standing or walking.[1] They often itch, and scratching can cause ulcers, infection and bleeding. Non-surgical treatments include elastic stockings, elevating the legs, and exercise. The traditional surgical treatment has been vein stripping to remove the affected veins. Newer and less invasive treatments, such as ultrasound-guided foam sclerotherapy, radiofrequency ablation and endovenous laser treatment, are replacing traditional surgical treatments.[2] Most of the blood from lower limbs is returned by the deep veins, the superficial veins return only about 10 per cent of the total blood from lower limbs, hence, can be removed or ablated without serious harm.[1]

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Case History

Six patients having unilateral lower limb varicose veins were selected for EVLA technique and foam sclerotherapy. Doppler study showed incompetent saphenofemoral junction (SFJ) and incompetent saphenopopliteal junction(SPJ) with leg perforators.

Premedication with a sedative (midazolam) and analgesic (diclofenac sodium) was administered.[3] Vein assessment and mapping by color flow duplex scan was performed and a decision was made about the point of vein cannulation. The patient was placed in the anti-trendelenburg position on the table. Local intradermal anesthesia was infiltrated through a 27G needle at the point of percutaneous insertion. The vein was then punctured under ultrasound (US) control with a 19G needle at the selected entry point. A guide wire was introduced into the vein. The guide wire was inserted up to the SFJ under duplex monitoring, and then positioned at the SFJ. A dilator was introduced over the guide wire. The laser fiber was introduced up to 2.5cm distal to SFJ. The diode laser was activated and the fiber was slowly withdrawn at 1.5 mm per second keeping the laser active. Energy used was 80 jules per cm at 12 watts. The delivery of laser light was stopped 3cm from the surgical entry point. After the laser procedure was complete, foam sclerotherapy was given in minor superficial varicosities. Compression bandage was applied after completion of the procedure. The patients were followed up after 1 week and 4 weeks.

No recanalisation was seen in any patient on color doppler at one month follow up. Except for mild skin irritation and ecchymosis, none of the patients reported any problem. No signs of deep vein thrombosis (DVT) were observed.

Discussion

Endovenous laser ablation (EVLA) for varicose veins appears to be an effective procedure for the treatment of varicose veins. The incidence of serious complications such as DVT, nerve injury, paraesthesia, postoperative infections and haematomas are more with traditional treatment of ligation and stripping of vein than after EVLA.[3] The principle mechanism of EVLA therapy is ablation and photocoagulation of the vein interior by laser induced thermal effects.[4] EVLA is accomplished by inserting an optical fiber just below the saphenofemoral junction (SFJ) through the great saphenous vein (GSV) and delivering laser energy through the fiber as it is withdrawn down the GSV.[4] During fiber withdrawal the vein wall is irreversibly destroyed and the vein is occluded.

Ultrasound guided foam sclerotherapy is the latest development in the sclerotherapy field.[5] The sclerosant is used to obliterate varicose veins. Liquid sclerosant such as STS (sodium tetradecyl sulphate) and polidocanol is used to produce foam like mixture which is basically air mixed with sclerosant. When this is injected into the veins it can be traced using an ultrasound scanner. Use of ultrasound improves accuracy and the use of foam appears to maximise the effect of the injection.

A significant improvement with EVLA has been reported by Ravi et al[6]. Out of 1149 GSVs patients, 39 (3.4%) recanalization were seen and 9 patients failed to respond to EVLA. Our observation with all the six patients with EVLA shows clinical improvement.

Conclusion

Endo venous Laser Ablation (EVLA) of the great and/or short saphenous vein has become the treatment of choice for varicose veins because it gives higher patient satisfaction, shorter recovery times, lower cost, and ease of operation. EVLA shows minimal side effects in comparison with other surgical methods. Patients can walk immediately after surgery and recovery time is short. The EVLA procedure can be performed in an outpatient setting and usually, only local anaesthesia is required. Selection of endovenous laser treatment as an alternative to conventional stripping depends on the cost of equipment and disposables, procedure time, contraindications to the use of NSAIDs, and operator experience.[7] Endo venous laser ablation technique seems to be superior to conventional ligation and stripping.

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Postgraduate Surgical Training: Ethics Vs Safety

*Prajnesh Shah**

Background

Present apprenticeship model for surgical training is 'see one, do one, teach one' which is neither safe nor ethical and inconsistent for qualifying skilled surgeons. It is also likely to be challenged because of increased public scrutiny on patient safety. Various scientific evidences also does not justify performing maiden experiment directly on patients. Training medical postgraduates in surgery without simulator is neither ethical nor safe in today's context of Ethics, Evidences and surgical Excellence. Unskilled surgeons present the single biggest risk to patients in the operating room. A report by the Institute of Medicine in 2003 indicated that up to 44,000 people die from medical errors in the U.S. every year. The report also indicated that training of health professionals was not adequate and assessment has been insufficient to measure ongoing proficiency.

Use of Simulator for Training

The concept of use of simulators is evolved from aviation industry wherein the pilot takes mandatory training before actually taking the air craft. Simulation is the replication and modelling of real-life situations. The simulator provides real and virtual world to deliver optimum learning and feedback. The surgeon's performance is tracked and analysed in real-time against validated metrics for that particular task. Once the task has been completed, the surgeon gets immediate, comprehensive and accurate feedback on the performance. Simulator generates performance records for individuals and groups which can be recorded for later review by users and a class administrator. These records are available as straightforward Excel and Word files. Simulator is also available as a networked system, to offer integrated class management and administration. The training on simulator increase patient safety by facilitating surgical proficiency and can be practiced again and again until the set threshold performance is achieved. Certification and training is standardized as per instructor led or self-directed that can also give objective feedback. Continuous tracking of performance highlights areas that need improvement so that further practice is focused on increasing effectiveness and reducing errors. This can also accelerate the pace of adoption of new procedures and devices, helps in rehearsal of patient-specific uncommon or complicated operation and establishing adaptation to critical procedural tasks. Thus, simulators meet adult learning needs in the form of structured, replicable learning experience based on prior experience and resources. Surgeons learn with set tasks that are surgically-relevant, understand and accept the gaps in their knowledge and deficiency in surgical skill.

Curriculum Reforms

Education in surgery needs reformation and mandatory changes for re-certification of surgical performance and outcome every year by each doctor. There is increased acceptance to set standards for surgical performance and proficiency. Professional organization like *Association of Surgeons* and *Boards of Certification* are involved in developing standard curricula and new metrics for validating and assessing surgical skill to process for re-certification every year. National Surgical Quality Improvement and Division of Research and Optimal Patient Care (DROPC) has recommended use of electronic medical records and documenting outcomes as a key component of accreditation.

Surgical education now recognizes the need for background training in practice sessions, on models or by simulation devices before operating on a live patient. The goal is to ensure that surgical residents have encountered simulations of the critical situations they will face in real life and have learned a safe way to approach each patient. The curriculum allows all residents to manage specific simulated case scenarios addressing essential content areas without the variability associated with clinical rotations. In addition, residents are able to learn, test various options, make errors, and engage in the self-assessment process without the concerns associated with real patients. The *Fundamentals of Surgery Curriculum* addresses all six core

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competencies defined by the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Medical Specialties (ABMS). Medical knowledge and patient care are the competencies of primary emphasis.

In India, EthiSkills course is available at Mumbai, New Delhi and Chennai. The curriculum has been standardized to include all common obstetrics and gynecology procedures that focus mainly on hands on skills building and covers principles of conventional (open) and minimal access (endoscopic) surgical procedures. This can be made mandatory for all medical post graduate student before giving degree by the authorities. Each surgical procedure has a clinical case detail, investigations, key learning points, aims and objectives of continuous quality improvements points, simple and complex exercises on simulators. Core competencies and expected performance are well defined. The curriculum has been devised to build a learner's confidence within the safety of a virtual environment, provides the same learning opportunities for all residents, emphasizes critical thinking skills, supplements current educational programs, is available 24/7 through any computer with internet access and provides tools for program directors to track performance and outcome records of resident. With changing times, there is a need not only to recommend but also make mandatory for enforcing surgical re-certification and credentialing process.

Conclusion

Use of simulators for post graduate surgical training is safe and ethical to achieve surgical excellence for the next generation of medical professionals. There is a need to reform the curriculum with emphasis on the use of simulators and periodic re-certification to ensure surgical proficiency.

Patient : Its been one month since my last visit and I still feel miserable.

Doctor: Did you follow the instructions on medicine I gave you?

Patient: I sure did : the bottle said 'Keep tightly closed'.

Ribavirin

Anuradha Gandhi, Pratruti Patel***

Introduction

The last decade has observed an unprecedented increase in viral infections in India. Several cases of viral diseases like dengue, swine flu, chikungunlya etc. have been reported from various parts of Gujarat. The country's first Congo fever case was reported from Kolat village in Sanand, Gujarat. The rarely used antiviral drugs have gained importance recently in therapeutics and are frequently discussed among the health care professionals. An attempt has been made to provide some information about ribavirin, a nucleoside analog, used for the treatment Crimean Congo hemorrhagic fever

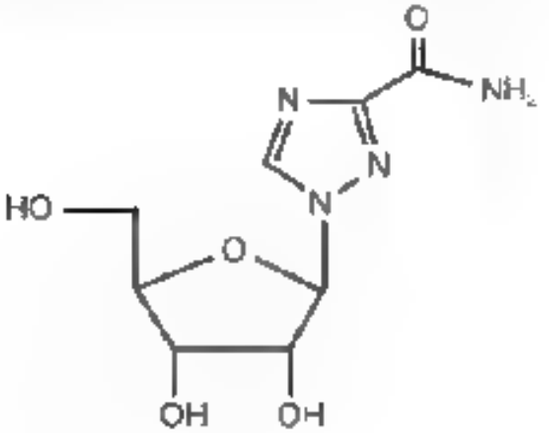

Fig.1 Structure of ribavirin

Mechanism of action

Ribavirin inhibits cellular nucleotide pools and viral messenger RNA synthesis. Intracellular enzyme causes phosphorylation of ribavirin and result into mono, di and triphosphate derivative. Ribavirin monophosphate competitively inhibits cellular inosine-5'-phosphate dehydrogenase and interfere with synthesis of GTP. Ribavirin triphosphate competitively inhibits GTP dependent trapping of viral messenger RNA. It also increases viral mutagenesis and inhibits viral replication

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Pharmacokinetics

It is rapidly absorbed from gastro intestinal tract after oral administration, peak plasma concentrations achieved within 1–3 hours, plasma half life is 43.6 hours (single dose) and 298 hours (multiple doses) High fat meal increases both AUC and Cmax by 70% while antacid reduces bioavailability by 14%. Following nasal and oral inhalation, it is absorbed systemically from the respiratory tract. Concentrations achieved in respiratory tract secretions are more than those achieved in plasma. It is concentrated in erythrocyte. After oral administration of 600 mg of ribavirin, approximately 61% and 12% is eliminated in the urine and feces, respectively, while 17% of the administered dose remain unchanged

Therapeutic Indications

- **Chronic Hepatitis C Virus (HCV) Infection**

  For paediatric patients the recommended dose of ribavirin is 15 mg/kg per day in divided doses, orally For adult patients, the recommended dose of depends on the patient's body weight.

  < 75 kg - 2 x 200 mg capsules AM, 3 x 200 mg capsules PM daily orally

  > 75 kg- 3 x 200 mg capsules AM, 3 x 200 mg capsules PM daily orally

- **Respiratory Syncytial Virus (RSV) Infection**

  Ribavirin is used to treat infants and young children for severe lung viral infection caused by respiratory syncytial virus (RSV). Nearly all children are infected with RSV before the age of 3 years. Most of the cases are mild and do not require antiviral drugs. However, severe RSV infections need to be hospitalized Ribavirin is used as inhalation using a SPAG-2 aerosol generator and an oxygen hood, face mask, or oxygen tent, deliver must containing 100 mcg/L at a rate of about 12.5 L of mist/min continuously for 12–18 hours daily for 3–7 days.

- **Viral Hemorrhagic Fevers**

  Usually IV regimen is preferred, Oral regimen may be used when parenteral preparation cannot be obtained or would be impractica..

Lassa Fever

Initial IV loading dose of 30 mg/kg (up to 2 g), followed by 16 mg/kg (up to 1 g) every 6 hours for 4 days and then 8 mg/kg (up to 500 mg) every 8 hours for 6 days for total treatment duration of 10 days.

Hantavirus Infections

Hemorrhagic fever with renal syndrome (HFRS): Initial loading dose of 33 mg/kg, followed by 16 mg/kg every 6 hours for 4 days and then 8 mg/kg every 8 hours for 3 days for a total treatment duration of 7 days

Crimean-Congo Hemorrhagic Fever

Initial oral loading dose of 30 mg/kg, followed by 15 mg/kg every 6 hours for 4 days and then 7.5 mg/kg every 8 hours for 6 days.

In case Initial IV loading dose of 30 mg/kg (up to 2 g), followed by 16 mg/kg (up to 1 g) every 6 hours for 4 days and then 8 mg/kg (up to 500 mg) every 8 hours for 6 days for a total treatment duration of 10 days

Adenovirus Infections

Severe infections in immunocompromised children should be treated with 25 mg/kg daily in 3 divided doses on day 1 followed by 15 mg/kg daily in 3 divided doses on days 2- 10 has been used Alternatively, 15 mg/kg daily for 10 days.

Dose and Dosage schedule

Available as 200mg Capsules, oral solution 40mg per mL (100mL/bottle) and 6 gm/100ml vial for inhalation. Oral solution and capsule may be taken with food in a consistent manner. The vial when reconstituted to the recommended volume of 300 mL with sterile water for injection / inhalation, it contains 20 mg of ribavirin per mL. Aerosolization is to be carried out with small particle aerosol generator (SPAG-2) nebulizer only The recommended duration of treatment is 24 to 48 weeks for patients who are not treated previously with interferon alph-2a, 2b. After 24 weeks of treatment, virologic response is assessed. The duration of treatment is individualized to the patient depending on baseline disease characteristics, response to therapy, and tolerability of the regimen. It is given by continuous inhalation, usually for 12 to 18 hours daily for 3 to 7 days. Small-particle aerosol generator is used to make a mist, which is then inhaled through the mouth or nose. Parenteral ribavirin is available for treatment of viral hemorrhagic fevers such as lassa fever, hantavirus infections, and congo-crimean hemorrhagic fever

Adverse Reactions

Systemic ribavirin causes dose related hemolytic anemia due to extra vascular hemolysis and bone marrow suppression Reductions in hemoglobin levels occurs within the first 1 to 2 weeks of oral therapy Aerolized ribavirin may cause irritation, rash, transient wheezing, and reversible deterioration of pulmonary function. Ribavirin IV bolus can cause rigors. The most commonly reported adverse reactions in adult patients receiving combination of ribavirin with pegIFN alfa 2a and 2 b are injection site inflammation/reaction, fatigue/asthenia, headache, rigors, fevers, nausea, myalgia and anxiety/emotional lability/irritability The most common adverse reactions in pediatric patients are pyrexia, headache, neutropenia, fatigue, anorexia, injection site erythema, and vomiting. Pulmonary symptoms like dyspnea, pulmonary infiltrates, pneumonitis, pulmonary hypertension and pneumonia have been reported during therapy with ribavirin with alpha interferon combination therapy may lead to death. Initiation of aerosolized ribavirin (nasal or oral inhalation) in infants has resulted in sudden deterioration of respiratory function. Monitoring of respiratory function is essential. Decrease or loss of vision, retinopathy including macular edema, retinal artery or vein, thrombosis, retinal hemorrhages and cotton wool spots, optic neuritis, papilloderma, and serous retinal detachment are induced or aggravated by treatment with alpha interferons. Ribavirin when used in combination with alpha interferons, a pretreatment eye examination is necessary in all the patients. It has demonstrated increased incidences of mutation and cell transformation in multiple genotoxicity assays and significant embryocidal and teratogenic effects at sub therapeutic doses in animal study

Drug Interactions

Combination with antiretroviral therapy for HIV and interferon alpha may cause hepatotoxicity and increase risk of mortality. Antacid containing magnesium, aluminum, and simethicone can decrease ribavirin concentration. Ribavirin when given along with azathioprine results into myelotoxicity (neutropenia, thrombocytopenia and anemia).

Precautions and Contraindications

It causes fetal harm when administered to a pregnant woman. Elderly patients may have decreased renal function (creatinine clearance < 50 mL/min.) and care should be taken in dose selection. Administration of aerosolized ribavirin should be under the supervision by qualified clinicians and support staff experienced with the specific ventilator and mode of administration. Ribavirin capsules should not be opened, crushed, or broken. Ribavirin monotherapy is not effective for the treatment of chronic hepatitis C virus infection and should not be used alone.

Resistance

Emergence of resistance to ribavirin has not been documented except in Sindbis and Chronic Hepatitis C Virus (HCV).

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A Journey from First MBBS to DM Resident

*Manish Doshi**

When Sachin Tendulkar made 120 runs against England in world cup 2011 it was his 97th century, twenty years after his debut. The credit for all the achievements go to this great cricketer. However, the credit for the first century in his career goes to the coach for the guidance, support, training and cricket academy where he learnt the game. Although I am not as great as Sachin Tendulkar, whatever I am today all the credits go to my Alma matter – *B J Medical College, Ahmedabad.*

Although every single day at campus was a story but I wish to share few memorable ones that influenced my life at the college. The very first *'introduction'* session at the hostel reminds me of the movie *'Three Idiots' "Why do you want to become a doctor?"* and *" Why have you come at BMC to study MBBS when you can take admission in the medical college of your own city?"* I was unable to answer them but I was fortunate to have twenty more others like me. Money, to serve the society, to become cardiologist!!! and more number of post graduate seats was some of the common reasons quoted by many. However, these answers were from the parents and most of us were not able to think or analyze. But now when I look back, I can share a lot about my Alma matter (nourishing mother).

Life at BJ was full of fun, challenges, hard work, success and sometimes disappointments (especially after the results!!). I still remember the first day of college where we were welcomed by a group of teachers. It was very fascinating to wear a clean white, ironed apron and attend lectures and many of us were impressed by the teachers of the Anatomy Department. Initial few months were very challenging in the hostel to settle down with the surroundings and *seniors*, and hence always looked for an opportunity to escape and go home during holidays.

Flushed with the success of having cleared I MBBS with decent marks, we entered II MBBS with an attitude of having lots of fun. "Golden Term" was the nick name used for II/I and III/I MBBS. It was decided not to enter library and made the college garden, canteen and the badminton court our new home. Initial few months were colourful with celebration of *different days*. Most of us were highly impressed and influenced by Department of Pharmacology. In the morning we walked to wards with dirty apron, along with a hanging stethoscope. It was fashion setting to attend OPDs, interact with patients, take history in wards and observe the doctors examining and diagnosing the patients. It was during this stage, there was gradual transformation in thought process which took me close to real life and I started dreaming of a becoming a doctor (still a cardiologist!!). Participation in projects and seminars undertaken by Community Medicine Department collectively inspired me to work hard. Meanwhile, life at the hostel became easier and I hardly thought of going home during holidays.

The final year was memorable as the cultural function *"BJ Fiesta 2004"* was organized by our batch. It was the time I learnt lessons of team work, unity, communication skill, event management, dance and a lot more to add. The organization of the event brought us closer as it was simply not possible to know all of them. The last year was confined to books and library. I was fortunate enough to secure postgraduate admission in the same institute. However, it is almost difficult to forget those days in TV room at the time of cricket match, the discussion on various topics in hostel room, birthday celebration with cold water at sharp 12 O'clock, group picnic and movie shows with friends. Today when I look back and think about the pertinent questions asked by seniors', it is not the number of PG seats that make this institute a reason for admission but it is the environment, memories, opportunities and culture that transforms an ordinary 12th passed student into an extraordinary self confident person.

In Latin it is said "Labour Omnia Vincit" means "Hard work conquers all". The hard work successfully took me to a meritorious position in all India level entrance exams for DM. Of course with the guidance, support of seniors and Pharmacology teachers of this institute. I never imagined I will be the first DM Clinical Pharmacologist from Gujarat in the country.

It is difficult for everyone to answer three names of Miss World or Nobel Laureates but it is very easy to answer names of teachers or institutes which changed their lives. The experience gained and the principles learnt at my Alma matter, I will cherish rest of my life!

* Pursuing DM Clinical Pharmacology
at Seth G. S. Medical College and K. E. M. Hospital, Mumbai.

Students' Activities and Achievements

- World AIDS day was celebrated on 1st December 2010 with great enthusiasm at B.J. Medical College under the banner of Red Ribbon Club - N.S.S Unit. Since 2005, the institute has taken the leadership in celebrating AIDS awareness with a difference. The services of peers have been used as protectors to arrange SAIYAM-2010. Peers protect their juniors by giving HIV / AIDS awareness to novice students under the guidance of senior faculty members of various departments. The newly admitted 1st M.B.B.S students wear Red Ribbon on their arms to show the solidarity for the cause AIDS. The celebration included presentations by students, questions and answers session and poster competition on the theme; "AIDS awareness for equality".
- An awareness programme on Body Mass Index (BMI) and its role in prevention of underweight and overweight was organized by NSS volunteers and Community Medicine Department during the nutrition week. The objective was to link nutrition / diet with the health i.e. normal weight. Arrangements were made to measure BMI of all the visitors at B. J. Medical College Canteen from morning to evening. Through special BMI charts students, teachers and staff members were made aware about their BMI. Nutritional counseling was also done if required. Participants also expressed their views on positive change they want in college canteen for better nutrition.
- Hardik Jadav won the first prize in doubles table tennis tournament at Vibrant 2011, Baroda Medical College.
- Following students secured meritorious position in All India Post graduate Entrance (2010) examination. Congratulations and wish them Good Luck!

  The first three students were awarded cash prizes as a token of appreciation.

Name	All India Rank	PG Admission	Institute
Patel Ronak	004	Radiology	Maulana Azad, Delhi
Cholusey Kevin	098	Orthopedics	B.J. M. C. Ahmedabad
Thoriya Prashant	162	Radiology	M P Shah, Jamnagar
Banta Aditya	328	Orthopedics	BHU, Lucknow
Desai Gunjan	471	Surgery	Lady Harding, Delhi
Savaliya Harshil	671	Pediatrics	B. J. M. C. Ahmedabad
Shah Masum	851	Radiotherapy	B. J. M. C. Ahmedabad
Parmar Rahul	SC-25	Orthopedics	B. J. M. C. Ahmedabad
Parmar Hardik	SC-102	Pediatrics	B. J. M. C. Ahmedabad

- Following students were awarded cash prizes as a token of appreciation for good performance in Gujarat University Pre PG examinations and the MCQ Test series 2010.

Gujarat University Pre PG Entrance Exam	
Name	Rank
Kapildev Chahar	12
Arvind Banta	18
Patel Ronak	24

MCQ test Series 2010	
Name	Rank
Vijay Ghardela	1
Masum Shah	2
Ronak Patel	3

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Inauguration of *Emergency Care, Trauma Centre, New Super Specility Hospital* by Hon'ble Chief Minister Shri Narendera Modi and Hon'ble Health Minister Shri Jay Narayan Vyas

Inauguration of *Akshaya Patra Yojana*, a facility to provide food to hospitalized patients by Hon'ble Health Minister Shri Jay Narayana Vyas

Felicitation of retired medical teachers by Hon'ble Health Minister Shri Jay Narayana Vyas

Inauguration of Anatomy Dissection Hall by Hon'ble Health Minister Shri Jay Narayana Vyas

Reunion of students of 1985 batch of BJMC at the institute

Inauguration and release of course manual at *Faculty Development Programme* organized in October 2010

Participants and resource persons at successfully concluded *Faculty Development Programme organized in October 2010*

Resource persons and participants at *Field Epidemiology Training Programme* for district surveillance officers from different states

A Get-Together of 1978 MBBS batch of BJMC at the institute

Workshop on *First Aid And Fire Safety* by NSS Unit at the institute

Celebration of *World AIDS Day 2010at the institute*

Table tennis Winner at *Vibrant 2011*

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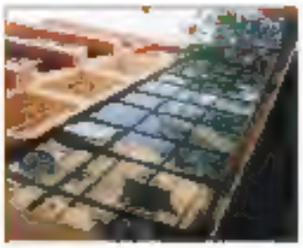

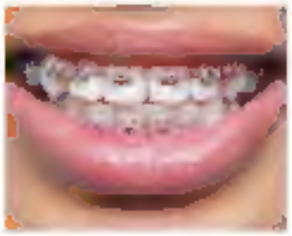

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